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Industry Joins USES In Job Drive

The first national reemployment program since the close of the war to be sponsored jointly by government and industry with the active backing of the daily, weekly and periodical press will be launched by the U. S. Employment Service and the War Activities Committee of the Pulpwood Consuming Industries for the pulp and paper industry on October 8.

Scheduled to operate in 24 major wood producing states the campaign is focused upon surplus labor areas to speed recruitments of workers from these pools for steady, well-paid jobs in the pulp and paper industry. Both the daily and weekly press, which have supported the Victory Pulpwood Campaign from the beginning, and the Periodical Publishers National Committee will participate actively in the reeemployment program. Newspapers will receive paid advertising, as well as background material for the development of news and publicity of their own origin. The periodical Publishers National Committee will furnish paid radio spots over key stations throughout the campaign field. All space and time purchased will refer workers to their "Nearest U. S. Employment Service Office."

Returned service men and veterans of war plants and shipyards have early choices of woods and mill jobs as they are offered by America's sixth largest industry. It is estimated that over 50,000 additional workers will be required during the first year of reconversion to supply pulpwood and manufacture pulp and paper products in sufficient quantities to meet current military and civilian demands and adequately man the industry for planned expansions incident to the creation and development of thousands of new products. The campaign will reemphasize the highly essential character of pulpwood as a basic raw material which goes into the manufacture of more than 700,000 necessities in every phase of American life.

To Employ "Push-Pull' Techniques

"Push-pull" techniques will be employed in advertising and supporting news features, publicity and promotions, including illustrated pamphlets and posters. The key to the program will be the high-frequency small display advertising to appear in daily papers in congested unemployment centers adjacent to pulpwood producing sections and mills. Most of the 150 daily papers located in 77 metropolitan areas, scheduled to carry this advertising have contributed funds and editorial support to the pulpwood campaign as participants in the supplementary program of the American Newspaper Publishers' Association's Newspaper Pulpwood Committee. The "push" principle will be developed in the small ads and highlighted in news, features, pictures and editorials.

Typical ads, addressed to ex-service men and war workers, are illustrated with a smiling woodsman holding an axe, a cutter at work, and a mill scene. They offer "Steady Jobs, Good Pay," and "A Steady Job For You," and calls the attention of veterans and ex-war workers to the many kinds of jobs open in the pulp and paper industry.

A simultaneous advertising program, to appear in 900 weekly community newspapers will give force to the "pull" side of the program, with such legends as "Come Back Home, Jobs Are Waiting," while news and publicity will underscore the advantages of working and living in rural sections and mill communities.

As part of the over-all emphasis on job opportunities, the air waves will carry into homes at intervals during the day, before and following news casts and farm programs, the invitation to take a secure job, with good future prospects at good pay in the stable pulp and paper industry, which has no reconversion problem and is destined to have its greatest expansion in the peace years ahead.

Reliance is placed on the combined force of newspaper advertising and editorial resourcefulness to stimulate the recruitment of workers through local offices of the U. S. Employment Service. Complementary advertising to be sponsored by mills, producers or local merchants will be provided to these cooperating media. Pamphlets picturing the types of work available and living conditions in mill towns and woods areas will be widely distributed while posters announcing that "America's sixth largest industry needs workers" will be advantageously placed on bulletin boards in plants, post offices and other public places.

Industry to Work Closely with U.S.E.S.

At each of the four stages of the campaign, the industry and the employment service will work in the closest cooperation, their separate efforts completely coordinated at national, regional, state and local levels and in the field. Publicity and editorial matter from the employment service will deal with the development and news of the campaign and people in the news. The War Activities Committee will devote its attention to the educational and informational side of the program.

The mechanics have been planned to set the stage for the campaign and keep it implemented with job opportunities. All mills, contractors, operators, suppliers and shippers are listing with local USES offices available jobs in their organizations.

These local listings will be consolidated by State Directors of USES and the complete job roster distributed to all local employment offices within their States. By this means applicants will be given a choice of jobs anywhere.

Midwest Concerned About Paper Salvaging

Termination of WPB Drives To Collect Waste Paper May Hamper Some Mills — Supply of Paper Still Rather Tight — Dr. Kress Addresses Professional Group — N.P.T.A. Meets — Other News

CHICAGO, Ill., October 1, 1945—Among the items of major concern in the Chicago paper market, the condition of the waste paper market is perhaps most important. The decision of the War Production Board to "ring down the curtain" on collections as of September 30 is going to really work a hardship on mills, according to local reports, and some efforts are being made to continue the salvage program with some WPB unofficial help. The sharp reduction in interest on the part of the general public is expected to make this a really difficult task.

There is no appreciable change in the supply of goods in this area despite the news that some foreign pulp is coming in from Sweden. There is, rather, a frank understanding of the fact that this country will be using up its reserves throughout the winter and until spring when logging can again get under way full blast. Manpower problems, shortages of chemicals and kindred worries face the producing trade while jobbers are concerned over the OPA price ceilings and general re-conversion policy.

Revocation of M-93 is considered as a step in the right direction and the feeling is growing locally that it would be best for the industry, looking ahead to "normalcy," if all controls were abandoned now to expedite recovery and develop a better balance of supply between producer and jobber.

Kress Talks "Off Record" To Paper Group

The Chicago Professional Group held one of its most outstanding meetings on Monday evening, September 24, at the Chicago Bar Association. More than 100 members and guests were present despite complications arising from other meetings. The speaker was Dr. Otto Kress, Technical Director of the Institute of Paper Chemistry, who spoke on the subject "Paper Making for the U. S. Armed Forces in Continental Europe in 1945." Because of the highly confidential information which the well known paper expert discussed, the meeting was "off the record" as far as the press was concerned. The speaker did discuss not only his observations pertaining to paper making but gave his own views. Inasmuch as he was in Europe almost from the beginning of the Allied invasion, the audience received a real treat in the way of inside information. Dr. Kress, author of more than fifty publications and holder of more than thirty domestic and foreign patents, impressed the audience with the seriousness of the European situation.

The Chicago Professional Group will hold its second meeting of the current season on October 15 when one of its own members, V. V. Vallandigham of the Kelco Company, is to be the guest speaker. His subject has not as yet been announced.

N.P.T.A. Meets Here

The National Paper Trade Association meetings at the Stevens Hotel on September 25 and 26 were well attended, little publicized but devoted specifically to business, according to reports here. The Association is said to have spent much of its time discussing controls and "decontrol" and there was a seeming unanimity of opinion that standardization controls within the industry should be revoked at the earliest possible moment. The Association's executive committee discussed the recommendations of the Paper Distributors Industry Advisory Committee to the War Production Board which pointed out that during the next few months there would be production problems including shortage of scarce materials and skilled labor which might make some controls necessary and would certainly delay any return to "normalcy."

During the week the Industrial Packaging Engineers Association held an all day meeting at the Sherman Hotel with Eugene Preston, sales manager of the Sherman Paper Products Company, as one of the major speakers. The general theme was what the packaging engineer means to management and what he will mean during post-war days.

Meetings of the NPTA, the Packaging Association and of the Chicago Professional Paper Group on September 24, brought the biggest influx of paper and allied Products executives into Chicago since pre-war days. As one paper trade leader put it, "It begins to look like old times."

Salvage Committee Bows Out

The Chicago Waste Paper Salvage Committee is now prepared to bow out entirely with the official end of the committee to be marked by a luncheon of officers and members, presided over by Mayor Kelly, on Friday evening, September 27. Originally sponsored by the Chicago Newspaper Publishers Association, the committee collected 160,000,000 pounds of waste paper, enough to load 4000 freight cars. The parochial schools gathered 36,000,000 pounds for which $200,000 was obtained. Public schools collected 70,000,000 pounds, receiving $470,000, with all money turned back to the schools for charitable purposes. The five curb collections gathered 19,416,000 pounds for which $110,000 was received. In the windup collection a week ago 1,323 tons were gathered.

Bryant to Have New Laboratory

The Bryant Paper Company, located at Kalamazoo, Mich., virtually in Chicagoland territory, is to have a new and complete research laboratory to be completed by January, 1946. Construction has already started on the laboratory which will house the research work for Time, Inc., and its subsidiaries. One of the main objectives of the laboratory, which is to be located adjacent to the Bryant plant in Kalamazoo, is to fully consider the end use of paper and the association of paper with the "other phases of the graphic arts industry as real steps forward in paper manufacturing." The announcement was made by Allan B. Milhan, president of the Bryant Paper Co.

New Paper Service Executive

B. C. Nelson has been appointed manager of the Paper Service Company of 247 E. Illinois street, succeeding F. C. Strang, now no longer connected with the company. Mr. Nelson will handle sales in the Chicago area for the wide variety of products featured by Paper Service.

May Decide to Keep Some Newsprint Controls

Canadian Report That WPB May Soon End Restrictions Expected to Result in Some Voluntary Measure to Fix Shipments by Canada — Future Prospects Bright — More Paper Restrictions Lifted.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 1, 1945—Following a report that the U. S. War Production Board is considering abolishing all controls on newsprint on December 31, except price, which does not come under its jurisdiction, it is stated here that if the U. S. Board relinquishes controls on that date voluntary measures may have to be taken to fix shipments of newsprints from Canadian mills to the U. S. market at specific limits.

Information is that a meeting has been called in Montreal for October 10 of the Newsprint Administration Advisory Committee, which comprises a key executive from each newsprint mill in Canada, to discuss the whole question, particularly whether or not it would be advisable for the Canadian government to abolish controls should the United States authorities decide to do so. It is said that the feeling exists here that in the interests of the whole of the customers of Canadian mills, not merely the big purchasers, it would be better to continue the controls for a few months until the situation gets straightened out.

In support of this, it is pointed out that while in Canada, the restrictions on power have been lifted, the over-all picture in regard to the supply of wood available for the making of newsprint remains the same. The lifting of any remaining controls will not increase production in the coming year to any great extent.

One feature of Canadian government controls in the newsprint industry is a system of allocation of available tonnage of business among the various mills. Prior to controls being enforced, the industry had been operating under a voluntary allocation system of its own. Lifting of government controls would likely call for resumption of voluntary allocation.

The newsprint industry is now producing 290,000 tons a month, which is almost 80% of its capacity. For the current quarter of this year it will be exporting 230,000 tons a month to the United States. The overseas export trade of Canadian newsprint manufacturers is a matter that will enter into the consideration of officials here at the meeting. In August 56,656 tons were shipped overseas—that means to countries other than the United States—making the total for the eight months of the year 321,053 tons. This is regarded as a low figure which it is hoped to increase when the mills are able to run at capacity. It is added:

"While 50,000 more men have been asked for by government employment agencies to cut wood in the forests of the Dominion this winter, the effect of this on pulpwood supplies will not be felt for many months at the mills, because the large proportion of the wood-cut this winter will only be floated down to the mills in the spring, and will not get to the pulping machines until many months later."

Bright Picture of Future Prospects

The Canadian Bank of Commerce, a nationwide institution, devotes its monthly commercial letter to a discussion of the current position and prospects of the Canadian pulp and paper industry, which, it says, seems destined to play an even more important part in the postwar national economy than in the pre-war period.

Pointing out that several new pulp mills are now planned or in process of construction, as well as a number of plant extensions, it says the annual capacity of the industry will be increased above that now available, namely, about 2,350,000 tons of chemical pulp annually, 4,140,000 tons of mechanical pulp, 4,770,000 tons of newsprint and other paper and over 500,000 tons of paperboard.

"Even before the war," the Banks says, "the industry had an average gross production valued at $180,000,000. Over 75% of this large amount was received in foreign exchange through sales in more than 40 countries, and at times it had been the major source of foreign exchange, mainly United States dollars."

British Paper Manufacturer Here

Sir Eric Bowater is at present in Canada, representing the British Ministries of Supply and of Aircraft Production in discussions with the Canadian and U. S. Governments. He is president of Bowater's Paper Mills, Limited, and chairman of Edward Lloyd, Limited, both of London, the largest manufacturers of newsprint in the world. On his way home, about the middle of October, he will visit his Newfoundland plant at Cornerbrook, Bowater's Newfoundland Pulp and Paper Mills, which has a capacity of 1,330,000 pounds of newsprint per 24 hours.

Regarding the future of British industry, he said that within ten years Great Britain would resume its former leadership in world and British Empire affairs. "I make this prediction with complete and absolute confidence," he said, "because I am speaking on behalf of the pople who won the Battle of Britain. Now these people are engaged in the Battle for Britain, which is fully as serious in another sense, believe me. First we must carry out demobilization. Then we will have to rehabilitate our factories and arrange for raw materials. To help us in our task we have a good, strong people's government. At present we are short of supplies, and because we have expended our materials and money in helping to win the war, we haven't the dollars to buy in dollar countries, of which Canada is one."

Following the recent exchange of timber limits between the Anglo-Canadian Pulp and Paper Mills and the Quebec North Shore Paper Company, Premier Duplessis has announced a further exchange between the Provincial Government and the Canadian International Paper Company, the properties affected being in the Gaspe area. The exchange gives the company limits in closer proximity to its mills in exchange for limits which the Premier said were of little or no use to the company because of their location.

The agreement for the exchange rules out entirely any export from Canada of wood cut from the Crown concessions obtained by the company, and export from the province to other provinces may be only

with the consent of the Government. When export to another province is permitted the prohibition extends to the point where the wood cut in Quebec and shipped to another province cannot be shipped in its raw state from such other province out of Canada.

More Restrictions Lifted

The Prices Board has announced revocations of restrictions on the end-use and delivery of paperboard boxes, thus permitting paperboard converters to return to their normal pattern of distribution.

However, C. V. Hodder, administrator of packages and converted paper products, warned that the relaxations would not immediately affect the supply of paper boxes as converters still would make deliveries on the basis of over-all quota of paper-board available to them from the mills.

He added there still was great need for salvage of waste paper. With increasing demand for waste paper in the manufacture of building board and other construction products, the continuance of voluntary salvage drives will be necessary.

Censorship regulations regarding Canadian exports of newsprint to overseas markets have now been lifted, and publication of up-to-date figures regarding these exports has been resumed by the Newsprint Association of Canada.

Quebec's Position Is Found Promising

MONTREAL, Que., September 24, 1945—Canada's industries are making great strides in the changeover from wartime to peacetime production, and none more so than the pulp and paper industry. The Government's plans for the reconstruction period, the result of long and painstaking preparations, are now in operation, and the results so far, according to the Minister of Reconstruction, are "reasonably satisfactory." The demands for labor and materials in productive industry are such that a large number of public works projects prepared under government direction have been deferred, and provinces and municipalities are being asked to defer still more, the Government's attitude being that private enterprise should have priority of available materials and labor.

"Full Employment" Goal in Sight

According to the Minister, the one million peacetime jobs in excess of those obtainable in 1939, which is the number estimated as required to assure "full post-war employment," in Canada, are now definitely in sight, and there is little likelihood of any overall lack of employment in the future. In fact, it is officially reported by the Minister that at the present time there are twice as many jobs available as there are applicants for jobs, which is considered remarkable in view of the fact that in the few weeks since Japan surrendered war orders having a volume of $150,000,000 a month have been cancelled.

There is, of course, some dislocation and some concern among workers laid off, especially as, in addition to absorbing these workers in other industries, men being mustered out of the armed forces at a rate approximating 50,000 a month also have to be absorbed. However, practically all war plants are providing, or will provide, for big peacetime employment. As an instance, the Canadian General Electric Company, which did an enormous volume of war work, is planning to double its pre-war employment figure, and other large companies will have near or higher employment than before the war.

The Minister of Reconstruction says he believes that in general workers formerly employed in strictly war plants are finding employment at comparable wages in peacetime industries, or could do so if they wish to move to localities where comparable jobs are available, and with goodwill and co-operation he believes Canada will set an example to the world in bringing about an orderly return to peacetime living. The chief obstacle in this respect to date are strikes in several basic industries for higher wages, and notably strikes involving many thousands of workers in the automotive industries.

Paper Industry in Fortunate Position

The pulp and paper industry is in a fortunate position in entering on the reconstruction period, for it has no reconversion problem and has a ready market for all it can produce. At the moment its chief handicap is lack of suitable labor and an aggressive program is being followed for obtaining more men to work in the woods and the mills. Another handicap is that in the immediate future strict limitation is placed on volume of output by the size of the stockpiles of pulpwood now on hand, which cannot be increased until the new season's cut becomes available. But for this it would be possible to increase employment by 50 per cent.

The chief concern at the moment is to recruit men for work in the woods, where it is hoped to place from 140,000 to 160,000 men this winter. While the labor shortage is beginning to ease, the Labor Department reports that there is still a persistent shortage of logging, sawmill and pulp and paper mill workers. Students who had been working in these industries during the summer now are returning to school, further complicating the already "acute situation." The statement added: "No appreciable relief has yet been afforded by former war industry workers nor by discharged military personnel, who appear reluctant to re-enter the woods."

The situation in regard to ocean shipping and land transportation, which has seriously affected the industry, is beginning to improve, and railway communication is recovering from the shortage and congestion which has prevailed since troop movements from overseas first became heavy.

Increase in Quebec Wood Cut

According to the Provincial Department of Lands and Forests, 9,739,810 cubic feet of wood were cut in Quebec forests in the first eight months of 1945, an increase of more than 1,000,000 cubic feet over the same period of 1944, when 8,656,870 feet were felled. An increase of 753 in the number of men employed in the forests was reported, and 46 additional woodyards are in operation.

Bathurst's Research Program

A new research department is to be established shortly by the Bathurst Power and Paper Company at its plants at Bathurst, N. B. Its purpose will be to perfect a number of new products from raw materials at the company's disposal and also to seek new or improved manufacturing processes.

Gatineau Mills Taxes

The properties of the Canadian International Paper Company at Gatineau Mills have had their assessments for taxing purposes raised from $35,000 to $4,000,000 by the local village council. The present agreement limiting taxation expires on July 1, 1946. The company has 30 days in which to appeal the new valuation. The company is adding a new plywood mill and a new sulphite mill to its plant.

WPB Sets New Quotas on Newsprint

WASHINGTON, D. C., October 3, 1945—Use of newsprint by newspapers and free distribution newspaper type publications was increased slightly by an amendment to the newspaper and newsprint order (L-240) the War Production Board announced today. Effective October 1, 1945, the sliding scale of percentage reductions applicable to newspaper publishers was relaxed one degree as recommended recently by the Newspaper Industry Advisory Committee.

The new percentage cuts which must be applied to the quarterly adjusted base tonnage in arriving at quarterly newsprint consumption quotas are:

2% of the amount over 25 tons but not over 125 tons.

4% of the amount over 125 tons but not over 250 tons.

6% of the amount over 250 tons but not over 500 tons.

10% of the amount over 500 tons but not over 1,000 tons.

12% of the amount over 1,000 tons.

Monthly delivery quotas for the fourth quarter continue to be one-sixth of the total of a publisher's consumption quotas for the third and fourth quarters of 1945. WPB Printing and Publishing Division officials pointed out. Thus, for example, if a publisher's consumption quota for the third quarter was 1,000 tons and his consumption quota for the fourth quarter is 1,400 tons, the monthly delivery quota will be 400 tons. This is arrived at by adding 1,000 tons and 1,400 tons which makes a total of 2,400 tons; dividing this figure by six (the number of months in the third and fourth quarters) giving 400 tons, the monthly delivery quota. The averaging of third and fourth quarter consumption quotas means that only one half of any increase in permitted consumption in the fourth quarter may be ordered for delivery and accepted by a publisher.

Shopping guides, free distribution newspapers and other free distribution publications in newspaper format, controlled under Paragraph O-2 of Schedule One to L-240, receive a five per cent relaxation in their permitted use of newsprint by another amendment.

The inventory ceiling as of the end of the year of all users of newsprint other than newspapers was changed by a further amendment to one-third of the amount of newsprint they lawfully consumed in the fourth quarter of 1945, or 60 tons, whichever is greater. This action brings the permissible inventory of other consumers of newsprint into closer alignment with the number of days permitted newspaper publishers.

Other amendments to Schedule One of L-240 forbid consolidation of newsprint quotas by new magazine or book publishers; transfer of quotas of shopping guides and free distribution newspapers from one city or trading area to another; and clarify the meaning of various paragraphs.

Wood Shortage Halts Pulp Plant

PLYMOUTH, N. C., October 1—The North Carolina Pulp Company suspended operations Thursday at noon due to a shortage of wood. The shutdown is said to be temporary, lasting probably a week. Machinery will be overhauled while the plant is closed. Labor shortage, rainy weather and recent rulings of the State War Manpower Commission are given as reasons for the shortage of wood.

St. Regis Sells Skenandoa Interests

UTICA, N. Y., October 3, 1945—St. Regis Paper Company has relinquished its majority stock interest in Skenandoa Rayon Corporation, by selling its entire common stock holdings in the rayon company to Beaunit Mills, Inc., New York, it was announced today by Roy K. Ferguson, President of St. Regis and former President of Skenandoa. The sale of the Skenandoa interests, which the company acquired in 1944, is in line with the St. Regis plans to devote its entire attention to its pulp, paper, multiwall paper bag, packing machine and plastics divisions where extensive expansion plans already are under way.

I. Rogosin, President of Beaunit Mills, Inc. and new President of Skenandoa Rayon Corporation, indicates his intention to use the entire output of rayon yarn produced by Skenandoa in the knitting and weaving mills of Beaunit. The present output of Skenandoa, including machinery now in process of installation, will approximate 10,000,000 pounds annually.

While the specific terms of the sale are not revealed, it is understood that the sale of Skanandoa by St. Regis involves a capital gain of approximately $2,000,000.

Pacific Mills Appoints Two

OCEAN FALLS, B. C., October 3, 1945—Appointment of Peter A. Frattinger, B. Comm., B. Sc., as plant engineer is announced by Pacific Mills Limited. Graduate of the University of British Columbia, Mr. Frattinger was in charge of material inspection for the British Purchasing Commission during 1940-42. After engineering assignments to war plants in both United States and Canada, he went to Howard Smith Paper Mills as plant engineer.

Coincident with the appointment of Mr. Frattinger, Pacific Mills has named John W. Parr for the post of chief industrial engineer at Ocean Falls. Mr. Parr specialized in methods and work simplification at the University of Toronto, and after joining the engineering staff of the Sangamo Company of Toronto, went to Boeing Aircraft, Vancouver, as industrial engineer.

Kalamazoo Wage Rates Stabilized

KALAMAZOO, Mich., October 1, 1945—All union papermill workers in Kalamazoo now have received a 15 cent per hour wage increase, according to John W. Bailey, union director, Parchment local 323, International Brotherhood of Paperworkers.

Bailey said today that with agreements reached yesterday in meeting with Kalamazoo Vegetable Parchment officials, workers at that company now will receive a 15 cent wage increase, marking the last of local mills to grant the raise. This concludes a series of union-company meetings and ends all disputes in the local paper industry, according to Bailey. Bailey and Emil Noren, were union representatives in meeting with KVP officials yesterday.

Hummel-Ross Nets 38 Cents

The Hummel-Ross Fibre Corporation for the nine 4-week periods ended September 8, 1945, reports net earnings per common share of 38 cents, compared with a net of 48 cents for the corresponding period in 1944. Net sales in the 1945 period totaled $3,897,523, compared with $4,911,099 in the like period in 1944.

Report German Industry is Trailing U. S.

Technical Director of Consolidated Water Power & Paper Co. Found Some Pulp and Paper Processes 15 Years Behind Present U. S. Progress—Open Forest Products Lab. to Public—Other News.

APPLETON, Wis., October 1, 1945—As a general rule, German industry has been far behind that of the United States, according to Gilbert K. Dickerman, technical director of Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., who recently returned to this country after a four-month trip of investigation in Europe.

Some processes in the pulp and paper industry are almost 15 years behind those used in the United States, he found, but much information which could be used to great advantage was obtained in the chemical and pharmaceutical fields.

Mr. Dickerman was in the Forest Products Laboratory group of 15 men, a part of an organization known as the Technical Industrial Investigation committee. He made the trip as a pulp and paper representative.

The men usually worked in teams of three or four as it was easier to find accommodations and transportation for smaller number. The group received the full cooperation of the Army in transportation, food and billeting arrangements, and its members were given simulated Army ranks, entitling them to officers' privileges.

Mr. Dickerman and his associates investigated such subjects as plywood, pulp and paper, all types of wood products, and forestry. They traveled to forests in southwest Germany, Bavaria, the Black Forest and as far north as Frankfort.

They found the Germans cooperative, and the scientists appeared to be anxious to have their work publicized. They never had to use their authority to demand admittance to a plant.

Open Forest Products Lab. to Public

The United States Forest Products Laboratory at Madison, Wis., which has been closed to the general public since Pearl Harbor because of the restricted research conducted for the Army and Navy and other government agencies, is preparing to remove the ban.

Invitations have been issued to managing editors of daily newspapers to attend a "field day" on Thursday, October 11, 1945. "It would take several days to present anything approaching a complete picture of the variety and complexity of projects underway, and developments which have taken place," the invitation said. "However, we hope to highlight some of the more interesting and significant phases of the Laboratory's work, particularly hitherto restricted wartime developments and those that have promising postwar application.

To Set Up Control Dams on Wolf River

A permanent organization which will advocate construction of sufficient dams on the Wolf river and its tributaries so as to control floods and impound reservoir capacity to insure a uniform flow of water will be set up at a meeting at Appleton, Wis., October 17, called by County Judge Gerald Jolin, Appleton, chairman of the Fox and Wolf River Patrol Association.

Nekoosa-Edwards Role in War

Nekoosa-Edwards Paper Company, Port Edwards and Nekoosa, Wis., an average of 92% of whose production during the war went to government agencies, armed forces, defense plants, industries and services essential to the war program and essential civilian goods, will continue to make some of the same grades of pulp and paper as before the war. It has already begun construction of a new bleach plant and water filtration plant at Nekoosa, which will greatly increase the strength and brightness of its pulp and will double the volume of bleached kraft pulp now produced there.

One of the most dramatic papers made for the military was a special wet strength army map paper. It was made to exacting specifications and could be used in the rain or exposed to water such as in amphibious operation without its disintegration.

Mills Discuss Labor Relations

Thirty-seven paper mills in Wisconsin, Michigan and Minnesota were represented last week in Milwaukee, Wis., at a discussion of peacetime labor problems of the paper industry. V. G. Cornelius, Appleton, Wis., secretary-manager of the Pulp and Paper Manufacturers' Association of Lake States, which called the meeting, declared that the meeting was not intended to shape policies or make decisions, since such matters are left to the individual mills.

The mills, however, discussed anticipated requests for increased wages and changes in working hours. It was pointed out that mills at Appleton, Neenah, Menasha and Kaukauna, Wis., had granted 5-cent hourly increases, but that employes of Michigan mills are asking 15-cent increases. All mills in the area are working 48 hours a week, and most of them are operating at capacity.

Talks on Labor Relations

V. G. Cornelius, secretary-manager of the Pulp and Paper Manufacturers' Association, Appleton, Wis., addressed the Appleton Kiwanis Club recently on "Development of Current Labor Relations." He explained some of the government's wartime regulations on wages and hours, discussed the War Labor Board and other war agencies. He pointed out that part of the reason for the unsettled condition between labor and industry today is that the war agencies are being dissolved and the peacetime machinery has not had a change to function.

H. Kranhold Heads K-C Supervisors Club

Harvey Kranhold has been named president of the Supervisors' Club of the Kimberly-Clark Corporation's Lakeview mill at Neenah, Wis., as organizational activity nears completion with drafting of a constitution and by-laws. Lawrence Hopkins was chosen vice-president; Claude Brady, secretary, and Howard Neubauer, treasurer.

The club will meet every fifth Thursday during the year and is open to all persons doing actual supervising work or jobs closely related to supervision. The aim will be to elevate the position of industrial supervision and to promote a supervisory training program. The current membership is 81.

A fast way to get motors...

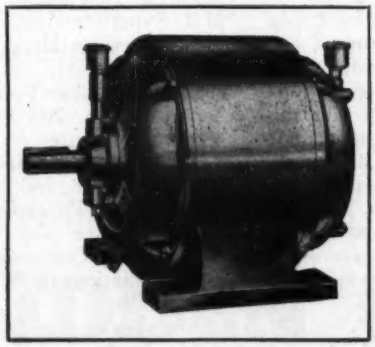
This suggestion is not addressed to buyers who use standard motors, although for them Star also has good news: Star began production of a large range of standard motors for stock weeks ago, and early delivery of some of these can be made.

To makers of products which require a motor that is somewhat "special" in frame design or mounting arrangement, Star's Welded Steel Construction may be a time-saver of great importance *right now.*

Star pioneered this method of construction, and developed unique production welding facilities to save the time and money that went into patterns and castings once required for "special motor" customers.

Exceptional strength and shock resistance is also gained through Star's Welded Steel Construction. This led to extensive use of Star Motors by the Navy long before the war.

A number of prominent concerns, needing motors that vary from standard, have found that Star can help them to get motors faster than they thought possible. Star may be able to reduce *your* wait for motors. To find out, send a description of your requirements to Star Electric Motor Co., 217 Bloomfield Avenue, Bloomfield, New Jersey.



AC and DC Motors ⅛ to 200 HP;
AC and DC Generators to 150 KW

STAR MOTORS

POWER PACKAGED AS YOU NEED IT

A first scene reminiscent of prewar selling days was made up by this group of distributors from the Hubbs and Howe Company, coarse paper jobbers, as they arrived at Wisconsin manufacturing headquarters of the Kimberly-Clark Corporation for a two-day sales conference.

American Can Expands Two Plants

American Can Company has announced a $2,250,000 expansion program for its plants at Los Angeles and Tampa, Fla., with announcement of additional plant expansions scheduled for the near future.

At the Los Angeles plant, new construction to cost $570,000 will double the present capacity of the milk container section and more than double its warehouse area, according to Russell C. Taylor, vice president. New equipment and improvement of present installations will call for an expenditure of more than $400,000.

At Tampa, the total plant floor space will be 454,000 square feet following addition of 184,000 square feet in new construction. Building plans entail an investment of more than a $1,000,000 while new can manufacturing equipment to be installed will cost in excess of $250,000.

Cal Hubbard Joins Columbia

BALTIMORE, Md., Oct. 2, 1945—Columbia Paper Products Company, specialty bag manufacturers, has appointed Cal B. Hubbard, as travelling sales manager. "Cal," as he is known by his many paper jobber friends throughout the country, started in the paper business in 1911. He was vice-president and secretary of the B. F. Bond Paper Co., of Baltimore, for many years, and in 1931 left to become merchandising counselor, and later, southern sales manager for the Lily-Tulip Cup Corporation. His next assignment was with the Office of Price Administration, as acting head of the Paper Division, with headquarters in Atlanta, Ga.

Clifford Harris Now With Jarisch

NORTH ADAMS, Mass., September 22—Henry Jarisch, Jr., of the Jarisch Company, today announced the appointment of Clifford H. Harris of Nashua, N. H., as sales promotion manager.

Harris, who will make his home in North Adams, has already begun his new duties. He was eastern district sales manager of the Fort Howard Paper Company of Green Bay, Wisc., from 1925 to 1943, when he took over a similar position with the Beebee Brothers Rubber Company of Nashua.

Bus-Load Visits Kimberly-Clark

NEENAH, Wis., September 27, 1945—The first local customer influx of the postwar era ended after a two-day stay here recently when two divisions of the Hubbs & Howe Company left Kimberly-Clark headquarters to continue a midwest tour of manufacturers. It was a scene reminiscent of prewar selling days.

The visiting contingent included twenty-eight members of Buffalo and Cleveland branches of Hubbs & Howe. The firm is a distributor of Kimpak for Kimberly-Clark and the company's two-day itinerary here included visits to the Badger-Globe, Lakeview, and Kimberly mills, followed by several group meetings and dinner at the North Shore Golf Club.

Atkins Heads Michigan Superintendents

KALAMAZOO, Mich., September 21, 1945—The first fall meeting and annual election of officers of the Michigan Division of the American Pulp and Paper Mill Superintendents Association was held at the Park American Hotel, Thursday evening, September 20, 1945. Newly elected officers are Ralph Atkins, chairman; Walter F. Wolfe, 1st vice chairman; Herbert Johnston, 2nd vice chairman; Wm. H. Astle, secretary-treasurer. Retiring chairman, Joseph Waber, is now identified with the Container Corporation at Wabash, Ind., having resigned his connection with the Rex Paper Company of this city.

The speaker was J. G. Rearick of the Warren Steam Pump Company. His subject covered the uses and installations of this type of equipment in pulp and paper mills.

The speaker for the October meeting will be Vance Verlandingham of the Calco Company. His subject will be "Evaluation of Size and Oil Absorption."

Abel Returns to Steam Specialties

Peter J. Abel, Chief of the Regulating Equipment Section, Industrial Instrument Branch, War Production Board, Washington, D. C. since March 1, 1944 will terminate his connection with this department October 1, 1945 and again take up his position as the eastern sales engineer for the Stickle Steam Specialties Company, Indianapolis, Ind.

ALPHA* PROTEIN

Glidden's chemically-isolated pure protein, made from the soybean, now available in reasonable quantities.

Used in the paper industry for Prosize (beater sizing) tub and calender sizing and as an adhesive for use in the manufacture of coated paper and paperboard.

PROSEIN*

Glidden's mechanically refined soybean protein adhesive product-currently available

for use in the manufacture of washable wallpapers. Also for extending Alpha* Protein and casein in paper coatings.

*Trademarks Registered U. S. Pat. Off.

For information write:

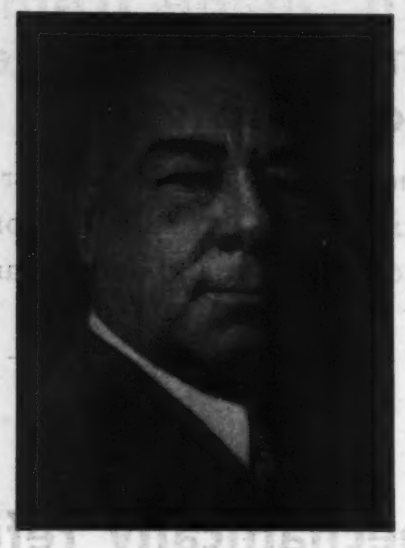
THE GLIDDEN COMPANY

Soya Products Division • 5165 W. Moffat St., Chicago 39, Ill.

Harrison Heads Westvaco Retirements

Twenty-seven employees of West Virginia Pulp and Paper Company, including Henry F. Harrison, vice-president, retired on October 1. Aggregate service of these employees with the company is more than 1,058 years. It has also been announced that Shepard Dillingham, sales manager, and Robert A. Bless, will retire on November 1, 1945.

Mr. Harrison is 78 years old and has been with West Virginia Pulp and Paper Company for more than 54 years. He was first employed by a predecessor company three years after its organization at the Luke, Md., plant. He was transfered to the New



HENRY F. HARRISON

York office in 1894 and became sales manager in 1904. He was made a vice-president of the company in 1941. Mr. Harrison has been active in many associations of the paper industry. He will continue to serve as a director of West Virginia Pulp and Paper Company.

Other employees from the New York office who retired on October 1st are: George R. Wadleigh, who was manager of the engineering department of the company from 1919 to 1944. During the past year he has been in charge of the advanced engineering department of the company. Prior to 1919, Mr. Wadleigh was manager of the engineering department of Bemis Brothers Bag Company at St. Louis, Mo. Noel Statham, who has been employed by the company since 1905. He was manager of the chemical department and general manager of the industrail chemical sales division. R. U. Shaffer was employed by the company as a salesman in 1900. He served as sales manager of the lumber department of the company for many years, and during the past few years as purchasing agent for lumber products.

Shepard Dillingham has been sales manager for West Virginia Pulp & Paper Company for a number of years. He first became associated with the company in 1913. He has been active in many associations of the paper industry. He will be succeeded as sales manager by Wiley Jennings. Robert A. Bless, of Mountain View, N. J., who will also retire on November 1st, is in charge of the company's warehouse in New York City. He has been employed by the company since 1909.

Thelen Retires at Madison

MADISON, Wis., October 1, 1945—Rolf Thelen, scientist and inventor who has been closely associated with the development of the U. S. Forest Products Laboratory here since its founding in 1909, retired today. He has been chief of the Laboratory's division of timber physics for the past 26 years, and will be succeeded in that post by Raymond C. Rietz, a staff member since 1928. Mr. Thelen has devoted his time to forest products research ever since his graduation from the University of California in 1904. Until coming to Madison in 1909, he did research for the Forest Service successively at the Seattle, Wash., timber testing laboratory, at Purdue University, Lafayette, Ind., and at the Forest Service headquarters in Washington, D. C.

Upon his arrival in Madison, he supervised the installation and erection of the apparatus and equipment with which the Laboratory started operations the following year. For several years he had charge of the engineering section of the Laboratory, later devoting his full time to the design of new and special machinery and testing equipment. Just prior to the first world war he organized the Laboratory's first commercial extension activities.

Jahn on Leave, in Foreign Service

Dr. Edwin C. Jahn, professor in the Pulp and Paper Department of the New York State College of Forestry at Syracuse University, has been granted sabbatical leave to accept an appointment with the Auxiliary Foreign Service of the Federal Department of State. He will undertake a special study of commercial and economic developments in the pulp and paper industry of the northern European countries.

This project was initiated by the Pulp and Paper Unit of the Bureau of Foreign and Domestic Commerce of the Department of Commerce, with the cooperation of the Department of State.

Capt. Jim Burt is Decorated

SOUTH LEE, Mass., September 22, 1945—Capt. James Burt of South Lee, Mass., chemist of the Hurlbut Paper Company, who enlisted in the armed forces in 1941 and who has lately returned to the United States, has been honored by his country with the Congressional Medal of Honor. Through 10 days of furious fighting beginning last October 13, Capt. Burt rode his tanks through the lines to direct American artillery fire, helped lead infantry units in the sector and twice had tanks shot out from under him.

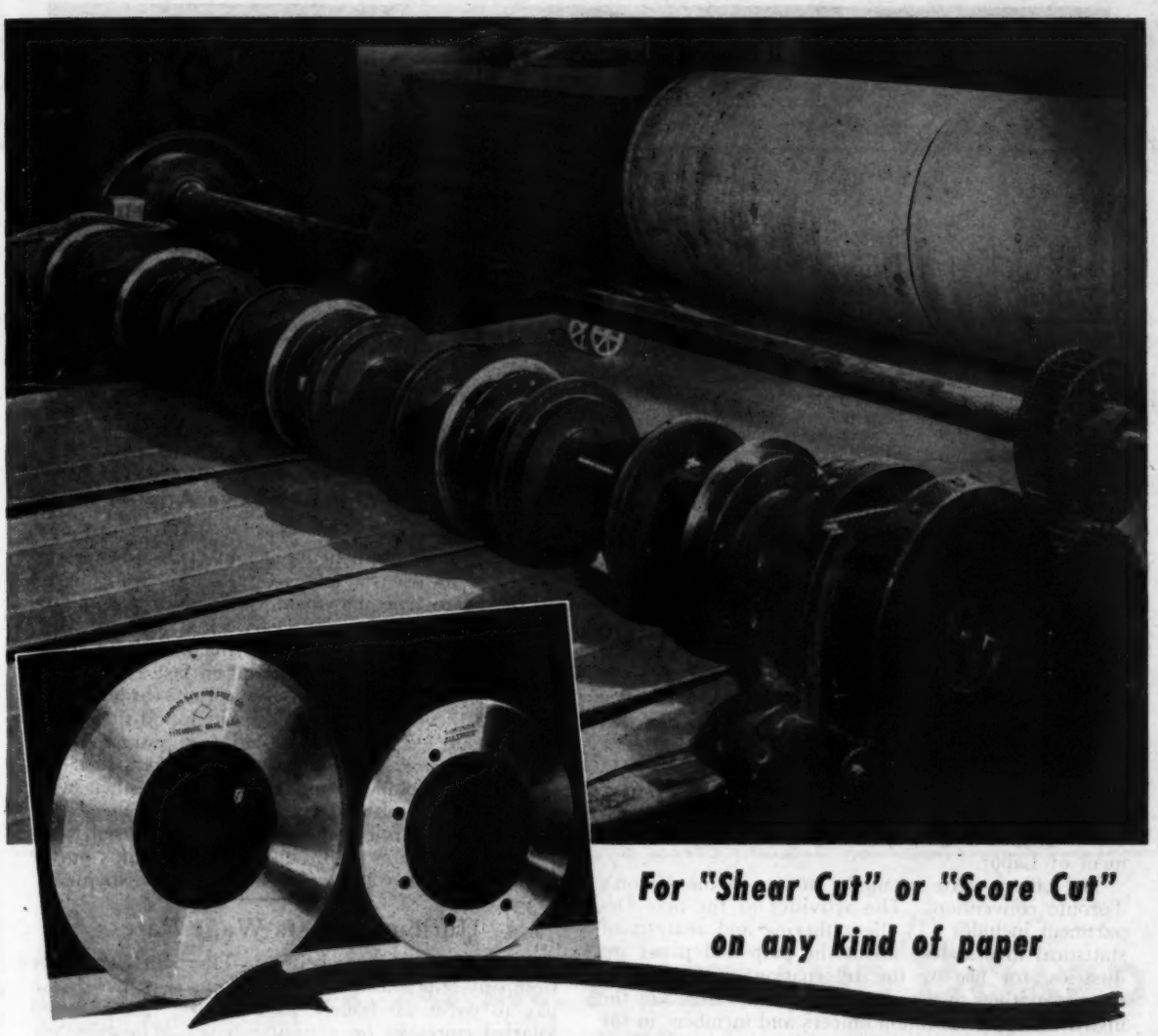
Capt. Burt, upon receiving his discharge, will resume employment with the Hurlbut Company.

Herrick Joins Sherman Products

NEWTON UPPER FALLS, Mass., October 1, 1945—John Herrick, formeerly associated with Procter & Gamble Company in New York City and with the Grumman Aircraft Engineering Corporation in Bethpage, N. Y., has joined the Sherman Paper Products Corporation here as baking-packaging engineer.

Watt in East for Kimberly-Clark

R. M. Watt, assistant vice-president of the Kimberly-Clark Corporation, arrived in New York October 1 to head up the eastern division for the company. He is continuing as assistant to the president of Spruce Falls Power & Paper Company.



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...USE SIMONDS FORGED CIRCULAR CUTTERS

From toughest corrugated board to thinnest tissue and acetate, you will get faster and smoother performance from Simonds Circular Cutters on any job of cutting, trimming, slitting, slicing, perforating or shredding.

These cutters are made from Simonds electric steel . . . and *forged* for smoothest cutting and longest life. Made in the single-bevel type for high-speed cutting in dense material . . . and also in the double-bevel type for cutting material of low density. Have Simonds recommend Circular Cutters of the correct design and temper to give best results on *your* paper-cutting operations. Write the nearest branch.

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PRODUCTION TOOLS FOR CUTTING METAL, WOOD, PAPER, PLASTICS

SIMONDS SAW AND STEEL CO.

FITCHBURG, MASSACHUSETTS

For its eleventh annual Hi Jinks party, including golf, soft ball, and assorted informal games that paper men everywhere know how to play the Paper Mill Men's Club of Southern California took over facilities of the Riviera Country Club, Los Angeles, on September 14. Past presidents of the Club were guests of honor, and the wholesale paper and twine industry of the area were general guests of the club. President G. A. Thiem, his fellow officers and committee men in charge of the event, paused at dinner while the picture above was taken.

Labor Union Opens Research Office

The International Brotherhood of Pulp, Sulphite and Paper Mill Workers of the United States and Canada (AFL), now has in operation a Department of Research and Education, with offices at 1018 Vermont avenue, Washington, D. C., and 274 St. Catherine street, W., Montreal, Canada. The Director of the Canadian office is James P. Nicol, Jr., a graduate of the University of Toronto and Osgoode Hall Law School, formerly in the practice of law and associated with the Labor Relations Board of Ontario. The Director of the Washington office is George W. Brooks, graduate of Yale and Brown Universities, formerly with the War Production Board, National Labor Relations Board, and United States Department of Labor.

The offices were set up by action of the Union's Toronto convention. The activities of the new Department include: (1) the gathering and analysis of statistical information about the pulp and paper industries, for use by the International Officers and Representatives in the conduct of their work, (2) the instruction of local union officers and members in the conduct of local union affairs, (3) the instruction of local union members, grievance committees and shop stewards in the business of administering collective bargaining agreements with their employers, (4) the preparation and publication of materials for the general education of the membership.

Package Machinery Workers "Cool Off"

SPRINGFIELD, Mass., September 29—Workers at the Package Machinery Company, scheduled to go on strike tonight will postpone their walkout for 30 days, Leo Messier, president of the CIO, United Electrical, Workers' Union, said last night.

At a meeting of the union's executive board yesterday afternoon it was voted to conduct the strike in compliance with the terms of the Smith-Connally Act. The union has notified the National Labor Relations Board and the Department of Labor that it wishes to have the government conduct a strike vote. The ballot will probably be taken next month.

Union leaders consented to comply with Labor Department procedure only after a week-long discussion with local CIO leaders. Package Machinery Union officials would be subject to fines if they authorized a walkout not in compliance with the Smith-Connally Act.

Ecusta Workers Lose Appeal

PISGAH FOREST, N. C., Sept. 29, 1945—Unemployment compensation benefits sought by 78 former employes of the Ecusta Paper Corporation were denied by the State Unemployment Compensation Commission, which held a hearing last week at Raleigh, N. C.

It was in evidence at the hearing that the workers walked out of the Ecusta Plant on last April 1 because of dissatisfaction over certain orders. On April 28 they returned to work but found themselves "locked out." Plant officials said there was no longer work for them. Subsequently, the workers filed unemployment compensation claims. They then were offered opportunities of employment by the U. S. Employment Service office, which they refused.

The commission denied the workers' claims on the grounds that they had refused suitable employment.

Hurlbut Adjusts Wage Rates

LEE, Mass., September 29—The Hurlbut Paper Company announced today a 7½ per cent increase in pay to cover all hourly workers and has adjusted salaried employes on a similar basis. The company is also granting three holidays a year—Labor Day, Thanksgiving and Christmas. The company has also taken out for all employes Blue Cross hospitalization and Blue Shield coverage with the company paying the total costs for each individual. The employes have the option of taking on the additional coverage for either husband or wife or family protection. It is understood that 95 per cent of the employes have signed up for the family coverage.

Shopsin Opens Own Plant

Sidney Shopsin, recently general manager of the Miller Paper Company, New York has taken temporary quarters at 124 West 24th St. He intends to open a paper converting establishment where he will manufacture white and colored cardboards in every thickness, also mat and photomount boards, silver and gold cardboards, aluminum gold, silver and colored boards, easels, and glossy colored boards.

Brossard Leaves Container Corp.

John J. Brossard, vice president and director of the Container Corporation of America, resigned from that company on October 1. Ira C. Keller, vice-president, will fill the vacancy on Container's board.

Obituary

Robert Stalker

HOLYOKE, Mass., September 29—Robert Stalker, wellknown papermaker, died Sunday evening at his home here after a short illness. He was 86. Born in Aberdeen, Scotland, August 26, 1859, he was the son of the late George and Elizabeth (Pratt) Stalker and came to this country more than 60 years ago.

Stalker was the last of a family of five brothers, all identified with the paper industry in Holyoke. For several years he was superintendent of the Waukegan Paper Company and later was for nine years superintendent of the Elkhart Paper Company of Elkhart, Ind. At the time of his retirement several years ago he was connected with the Chemical Paper Manufacturing Company.

Survivving him are one son, Rev. John R. Stalker, rector of St. Timothy's church, Massillon, O., and one daughter, Grace, at home. The funeral was held Wednesday with Rev. James F. Madison officiating and burial was in Forestdale cemetery.

Victor A. Hanson

SPRINGFIELD, Mass., September 29—Victor A. Hanson, 59, of 124 Shaker road, Longmeadow, died yesterday at Springfield hospital of coronary thrombosis. At the time of his death, Hanson was assistant treasurer of the Valley Paper Company in Holyoke, a concern he joined in May, 1942. He had previously been advertising manager of the Plastic Coating Corporation in South Hadley Falls.

He was born in Springfield, son of William and Beulah (Marsh) Hanson and spent his entire life in this city. He was educated in the local public schools.

William T. Dole

LAWRENCE, Mass., September 27, 1945—William T. Dole, 69, vice-president, treasurer and director of the Champion-International Company, paper manufacturers, and trustee of the Broadway Savings Bank, died September 27 at his home, 190 Jackson street. He had been associated with the company for 47 years.

His wife; a daughter, Mrs. Frank M. Buckly, of Leonia, N. J., two granddaughters, and a brother, Charles T. Dole, of Andover, are living. Funeral services were held at the home, September 29.

Ralph W. Ellis

SPRINGFIELD, Mass., September 29—Ralph W. Ellis, 88, former mayor of this city and prominent in the paper industry, died at his home, 39 Mulberry street, yesterday. Ellis was a member of the board of directors of the Crocker-McElwain Company, Chemical Paper Company and Holyoke Cards and Paper Company at the time of his death.

Fratus Retires After 66 Years

BOSTON, Mass., October 1, 1945—Catano Fratus, dean of credit managers in the paper industry, completed 66 years of service with John Carter & Company, Inc., last week and retired from active service. In his honor, the company gave him a dinner in the Old Boston Room of the Parker House, September 27, which was attended by executives of the corporation and nearly all the fellow workers.

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Agency representation in principal cities of world markets

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending September 29, 1945

STOCKS

	High	Low	Last
A. P. W.	7⅜	6⅝	6⅝
Armstrong Cork Co.	53¾	52⅜	53¾
Celotex Corp.	20½	19	20½
Celotex Corp., pf.	21⅞	21⅜	21½
Certain-Teed Products Corp.	15⅞	14⅞	15⅝
Certain-Teed Products Corp., pf.	...	...	...
Champion Paper & Fibre Co.	45	42	44⅝
Champion Paper & Fibre Co., pf.	...	...	...
Congoleum Nairn Co.	38¾	35⅝	38¾
Container Corp. of America	33⅝	33	33½
Continental-Diamond Fibre Co.	13¾	13⅜	13¾
Crown-Zellerbach Co.	26⅝	25½	26½
Crown-Zellerbach Co., pf.	107	103⅜	106½
Dixie Cup Co.	34¾	34	34½
Dixie Cup Co., —A	48¼	47⅜	48¼
Flintkote Co.	32⅞	32⅛	32⅞
Flintkote Co., pf.	108¼	107	108¼
Robert Gair	7⅜	7⅛	7⅜
Robert Gair, pf.	18½	18¾	18½
International Paper Co.	33½	31⅜	33
International Paper Co., pf.	103⅛	101	103⅜
Johns-Manville Corp.	140	137	139
Johns-Manville Corp., pf.	131	131	131
Kimberly-Clark Corp.	53¾	52⅝	53
Mac Andrews & Forbes	33⅞	33½	33½
Mac Andrews & Forbes, pf.	...	...	...
Masonite Corp.	49½	48⅛	48¾
Mead Corp.	18½	17⅝	18
Mead Corp., pf. A—6%	...	...	...
Mead Corp., pf. B—5½%	104	104	104
National Container Corp.	19½	18⅝	19
Paraffine Companies, Inc.	73	73	73
Paraffine Companies, Inc., pf.	...	...	...
Rayonier, Inc.	23	21¼	23
Rayonier, Inc., pf.	37¼	36⅛	37⅛
Ruberoid Co.	42	41	42
Scott Paper Co.	55	53¾	55
Scott Paper Co., pf.	111¾	111	111
Sutherland Paper Co.	...	...	...
Union Bag & Paper Corp.	21⅜	20⅛	20⅝
United Paperboard Co.	8	7⅞	7⅞
U. S. Gypsum Co.	103	98½	103
U. S. Gypsum Co., pf.	...	...	...
West Virginia Pulp & Paper Co.	32⅞	32⅛	32¾
West Virginia Pulp & Paper Co., pf.	...	...	...

BONDS

Abitibi Pulp & Paper Co. 5s '53	106⅝	106⅜	106⅜
Celotex Corp. 3½s '55	...	...	...
Certain-Teed Products Corp. 5½s '48	...	...	...
Champion Paper & Fibre Co. 4½s '50	...	...	...
International Paper Co. 6s '55	108½	108½	108½
International Paper Co. 5s '47	104	103¾	104
Mead Corp. 3½s '53	...	...	...

New York Curb Exchange

High, Low and Last for Week Ending September 29, 1945

STOCKS

	High	Low	Last
Great Northern Paper Co.	41	38½	41
Hummel-Ross Fibre Corp.	10⅝	10	10
St. Regis Paper Co.	8	7⅜	7⅞
St. Regis Paper Co., pf.	...	...	...
Taggart Corp.	7½	7	7½

BONDS

American Writing Paper Co. 6s '61	101½	101⅜	101½

Sandy Hill Plans for Post-War Era

HUDSON FALLS, N. Y., October 1, 1945—The Sandy Hill Iron and Brass Works will have few, if any reconversion problems during the next several months. Plans were made while war orders were still occupying the minds of the employes and the foresight of the management and engineers has already met and overcome most of the problems of reconversion. In comparison to normal pre-war production, it was stated that enormous quantities of war equipment were produced here with virtually no plant expansion.

However, it is believed that the plant is now far better equipped and manned than before the war. The annexation of new and larger pieces of machinery used in speeding production on war equipment will now be turned to peacetime industry with equal facility and the men who operate these machines should be better trained because of their experience on war contracts.

Wartime Paper Salvage High

WASHINGTON, D. C., October 3, 1945—Approximately 30,000,000 tons of waste paper were salvaged in the United States between January 1941 and September 1945, the Conservation and Salvage Division of the War Production Board reported today. This amount is more than 90 times the total of the nation's waste paper inventory on July 1, 1945 of 330,000 tons, WPB pointed out.

Waste paper collection during 1941 was conducted by private industry, without emphasis on wide public participation until October 1941 when the stockpile dropped to 290,000 tons. The first waste paper salvage campaign was instituted in the Autumn of 1941 and the total collection for that year was 5,921,000 tons, or an average of slightly less than 500,000 tons a month.

The Conservation and Salvage Division of WPB was established in January 19 and promptly launched an intensive waste paper salvage drive in the interest of the war effort.

Twenty one thousand local salvage committees functioned during the war for the collection of waste paper (as well as used tin cans, fats and rags) and largely through their invaluable efforts the salvaging of waste paper kept pace with consumption, which also was approximately 30,000,000 tons between January 1941 and the end of the war.

While WPB sponsorship of the waste paper salvage campaign will cease officially on September 28 when the Conservation and Salvage Division is dissolved, there is a continuing need for waste paper in the reconversion task as well as in supplying needs of our occupation forces overseas and of liberated areas. Therefore it is expected that community organizations probably will continue salvage drives.

The Boy Scouts of America were an important factor in waste paper salvage from the beginning, and in the Fall of 1943 the nation's school children other than Boy Scouts were organized as Paper Troopers to swell the salvage total. They wore an insignia with the letters "PT" and received army-type chevrons, campaign ribbons and certificates for outstanding paper salvage work.

Salvage collections, consumption and inventory of waste paper in the U. S. from January 1941 through July 1945 follow:

Year	Receipts (Thousands of tons)	Consumption	Inventory January	Inventory December
1941	5,921	5,984	375	333
1942	6,049	5,810	345	543
1943	6,064	6,350	516	249
1944	6,959	6,903	250	315
1945 (Jan. through July)	4,055	4,041	272	330(July)

The consistently high average of waste paper collection totals was all the more notable for the period beginning with 1943, because by that time all large surplus stocks of waste paper in attics, warehouses, office buildings, factories, etc. had been collected, and paper conservation through WPB regulations and "paper holidays" by retail stores had reduced the amount of waste paper available for salvage.

The most critical point in the wartime waste paper situation occurred in October 1943 when the national inventory dropped to 242,000 tons and a number of waste paper consuming mills had to shut down for lack of supplies. With the cooperation of local salvage committees, WPB increased the tempos of salvage drives and by July 1944 the inventory climbed back past the 300,000 ton mark.

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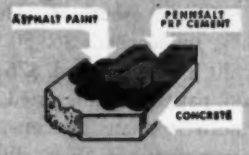
PENNSALT PRF CEMENT

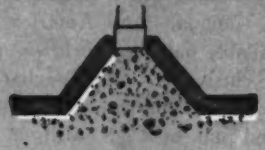
Designed specifically for bonding corrosion-proof brick and tile in uses where acids, alkalis and solvents are encountered

Typical applications are laying floors and drains, and lining tanks in metal finishing shops where a special cement is required that will resist corrosive acids, alkalis and solvents.

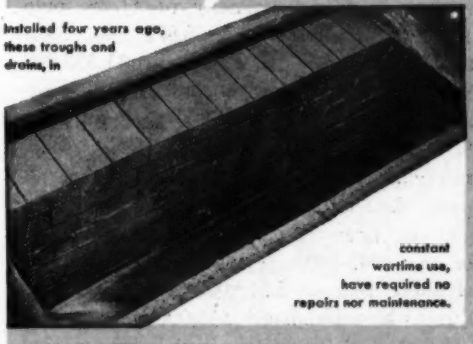


TYPICAL FLOOR CONSTRUCTION

DRAIN OR TANK LINING



PROTECTION FOR SUPPORTS



Installed four years ago, these troughs and drains, in constant wartime use, have required no repairs nor maintenance.

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Chemical Resistance — Inert to: Alkalis, fats, oils, solvents, fresh or salt water, steam, all mineral acids including hydrofluoric acid, with exception of high concentrations of strong oxidizing acids such as nitric, chromic and many organic acids, and alternate contact with strong acid and alkali.

Attacked by strong oxidizing agents.

Color	Black
Permissible temp. in use	Up to 375° F.
Absorption (ASTM)	Less than 0.5%
Compressive strength	12,000-14,000 lbs. per sq. in.
Tensile strength	1,000-2,000 lbs. per sq. in.
Modulus of rupture	1,800-2,100 lbs. sq. in.
Coefficient of thermal expansion	.0000087 inches/inch/degree F. (in range 80-350° F.)
Porosity	Completely impermeable, even at elevated temperatures. It is non-porous.
Joint thickness recommended	⅛-⅓ inch
Mortar required to butter one 9 inch brick on 3 sides	½ lb. (approximately)
Storage	Can be stored indefinitely in a cool place.
Hardening time	Pennsalt PRF Cement construction may be placed in service within twenty-four hours.

Containers (Non-returnable)	POWDER	SOLUTION
	20 lb. drum	10 lb. drum
	100 " "	50 " "
	250 " "	375 " "

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Acid, Alkali, and Solvent proof cements—Acid, Alkali, and Solvent Emulsion Type Cleaners—Paint Strippers—Pickling Agents—Rust Inhibitor.

SPECIAL CHEMICALS DIVISION
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Dept. PTJ, 1000 Widener Building, Philadelphia 7, Pa.

I would like to have you send me free booklet on Pennsalt PRF Cement.

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PENNSYLVANIA SALT MANUFACTURING COMPANY
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October 4, 1945
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v.121 pt.2

PAPER
TRADE JOURNAL
Title Reg. U. S. Pat. Off.
W. L. Cook, Editor

COMING EVENTS IN PAPER INDUSTRY

New England Section. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

Delaware Valley Section. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

Lake States Section. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

Kalamazoo Valley Section. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

Empire State Section. Technical Association of the Pulp and Paper Industry—Second Thursday of each month at the Woodruff Hotel, Watertown, N. Y.

Chicago Professional Paper Group. Third Monday of each month except July and August at Chicago Bar Association, Chicago, Ill.

ISSUES NEW PULP STATISTICS

All available data on wood pulp has been included in the 1945 edition of "Wood Pulp Statistics" just published by the United States Pulp Producers Association, 122 East 42nd street, New York 17, N. Y., at $3 a copy, plus postage. The contents of this edition cover the entire pulp industries in the United States, Canada, Latin America, Sweden and present all available data on world production from 1934 to 1938 inclusive. Numerous charts are included.

Production data shows that the output of all grades of wood pulp by U. S. Mills in 1944 aggregated 10,108,443 tons; imports, 1,071,623 tons; exports, 218,412 tons, providing a new supply of 10,961,654 tons. This compares with domestic production in 1943 of 9,680,462 tons; imports, 1,305,549 tons; exports 300,700 tons and a new supply of 10,685,311 tons. U. S. production in 1942 was the highest on record at 10,783,430 tons; imports, 1,236,519 tons; exports, 378,148 tons, and a new supply of 11,641,801 tons. In 1941, the next record high year, U. S. mills produced 10,375,422 tons; imports were 1,157,886 tons; exports, 328,608 tons; new supply, 11,711,526 tons.

Sulphite wood pulp production, including dissolving grades, by U. S. mills in 1944 totaled 2,386,149 tons; imports, 720,098 tons; exports, 95,431 tons, providing a new supply of 3,010,816 tons, against a consumption of 3,082,590 tons. This is comparable with an output of 2,436,502 tons in 1943; imports of 879,860 tons; exports of 157,566 tons, and a new supply of 3,158,796 tons, against a consumption of 3,407,719 tons. In 1942, when production attained its highest peak of 2,930,272 tons; imports totaled 834,453 tons; exports—205,413 tons, providing a new supply of 3,559,312 tons, against a consumption of 3,584,373 tons.

Sulphate pulp production by U. S. mills in 1944, totaled 4,548,810 tons; imports, 146,015 tons; exports, 112,370 tons, providing a new supply of 4,582,455 tons, against a consumption of 4,588,463 tons. This compares with a production of 4,235,724 tons in 1943; imports of 152,342 tons; exports 136,986 tons, providing a new supply of 4,251,170 tons, against a consumption of 4,430,098 tons. In 1942, the highest on record, output was 4,738,266 tons; imports, 149,738 tons; exports, 168,445 tons, providing a new supply of 4,719,559 tons, against a consumption of 4,632,640 tons.

Mechanical pulp production by U. S. Mills in 1944 was 2,220,349 tons; imports, 176,887 tons; no exports, providing a new supply of 2,397,236 tons, against a consumption of 2,387,420 tons. In 1943, output was 2,184,059 tons; imports, 236,484 tons, no exports, providing a new supply of 2,420,543 tons, against a consumption of 2,400,142 tons. In 1942, the high record year, production was 2,276,126 tons; imports, 219,876 tons, no exports, providing a new supply of 2,496,002 tons, against a consumption of 2,453,171 tons.

Data on maximum prices for wood pulp sold in the United States, effective February 14, 1944, per short air dry ton, delivered to consuming mills, including basic maximum transportation allowances, were as follows: sulphite, softwood, bleached, $86; unbleached, $74; screenings, $43.50. Hardwood sulphite, bleached, $83.50; unbleached, $71.50. Sulphate, northern, bleached, $86; semi-bleached, $82; unbleached, $73. Sulphate, southern, bleached, $79; semi-bleached, $75; unbleached, $63.50. Soda pulp, effective January 30, 1945, bleached, $76; unbleached, $72. Groundwood, paper machine dried, $53; screenings, $32. Northern sulphate sideruns, $73; southern sulphate sideruns, $63.50, and standard newsprint, $50 a ton.

Total annual productive capacity of U. S. pulp mills in 1945 is estimated at 11,968,872 tons, compared with 11,084,626 tons in 1944, with 11,352,200 tons in 1942, and with 10,825,950 tons in 1941. Production in 1944, as percentage of rated capacity, total, 85%; sulphite, 82%; sulphate, 88%; soda, 88%; semi-chemical 86%; groundwood 75%.

World wide data on the production of wood pulp includes nothing later than 1938. Average annual output for the 1945-1938 period includes the following: United States, 5,513,000 tons; Canada, 4,159,000 tons; Newfoundland, 316,000 tons. Latin America, 13,000 tons. Production in the above period by Swedish mills was at the annual rate of 3,441,000 tons, Finland, 2,134,000 tons and in Norway, 1,065,000 tons. Production in Eastern Europe was at the annual rate of 1,167,000 tons, of which Russia produced 799,000 tons. Western Europe production was at the annual rate of 651,000 tons, of which Great Britain produced 163,000 tons and France, 363,000 tons. In Central Europe the productive capacity average 3,483,000 tons annually, of which total Germany produced 2,497,000 tons; Austria, 389,000 tons, and Czechoslovakia, 341,000 tons. In Southern Europe output was at the annual rate of 91,000 tons, of which total Rumania produced 59,000 tons and Yugoslavia, 19,000 tons. No production data of Belgium, Manchukuo, or Spain are included in the above

Reduces October Newsprint Orders

WASHINGTON, D. C., October 3, 1945—Newspaper publishers and other newsprint users were instructed today to reduce their orders on mills for delivery of newsprint in October, 1945, by the amount of any orders that called for delivery in September, 1945, or prior months and which are unfilled or uncancelled on Midnight, September 30, 1945, the War Production Board said.

This action, designed to cancel all unfilled orders on mills for newsprint that was to have been delivered before September 30, was accomplished by the issuance of Direction 7 to L-240, the newsprint limitation order.

Cancellation of the unfilled orders, according to WPB, was recommended by the Newspaper Industry Advisory Committee and is necessary if there is to be a relaxation of fourth quarter consumption quotas for publishers of newspapers ,shopping guides, free distribution newspapers, want ad publications and free distribution publications in newspaper format.

Powell River Increases Newsprint

VANCOUVER, B. C., Oct. 2, 1945—Capacity newsprint production is being attained as quickly as possible by the Powell River Company, according to H. Foley, President. The company has started its sixth newsprint machine in operation at the plant in mid-September, and will put its seventh machine in operation during October. Mr. Foley said the company's plans were dependant entirely on the available supply of labor, but it was the desire of the firm to step up the newsprint production of the plant to full capacity.

The new hydraulic barker is at present in process of installation at the Powell River plant, and is expected to be in operation during the early part of 1946. Expansion of the power plant of the company is also being undertaken in connection with this development. A second 18,000 k.w. generator unit has been ordered for installation at the Stillwater Power House.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1945		Corresponding Weeks—1944	
Aug. 18	67.8	Aug. 19	90.4
Aug. 25	95.4	Aug. 26	92.2
Sept. 1	95.2	Sept. 2	89.4
Sept. 8	75.9	Sept. 9	74.4
Sept. 15	94.0	Sept. 16	92.8
Sept. 22	94.3	Sept. 23	91.9

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1944	88.7	88.5	88.1	87.6	88.7	89.8	80.3	90.6	88.2	92.5	90.6	92.4	88.1
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6					

COMPARATIVE YEARLY SUMMARIES

	1938	1939	1940	1941	1942	1943	1944	1945
Year to date	69.4	79.5	86.2	95.0	92.2	88.1	87.8	88.0
Year Average	71.5	83.4	85.6	97.4	90.4	87.8	88.1	

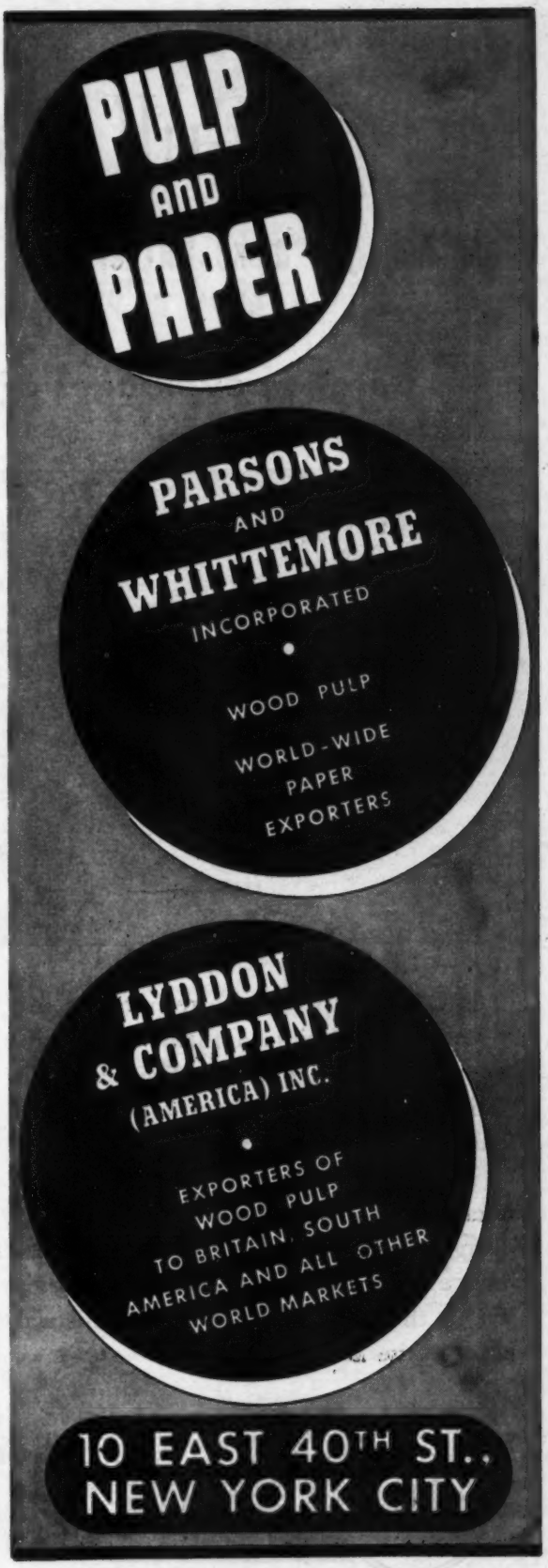
*Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Current Weeks—1945		Corresponding Weeks—1944	
Aug. 18	67	Aug. 19	95
Aug. 25	99	Aug. 26	96
Sept. 1	97	Sept. 2	97
Sept. 8	80	Sept. 9	80
Sept. 15	96	Sept. 16	97
Sept. 22	93	Sept. 23	96

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1944	90	96	95	96	96	96	85	96	92	95	95	85	93
1945	91	95	97	97	96	96	86	90					

† Percents of operation based on "Inch-Hours" reported to the National Paperboard Assn.



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The "Fading" of Groundwood by Light

III. The Changes Taking Place in the Nature of the Compounds Present in Groundwood as the Result of Fading

By Harry F. Lewis[1] and Douglas Fronmuller[2]

Abstract

Exposure of groundwood paper to ultraviolet light results in deep-seated changes in the components of the paper. These reveal themselves in a demethylation of lignin and a great increase in solubility in 1% NaOH; at the same time there occurs a shortening of the chain lengths of the cellulose along with an oxidation of the carbohydrates to increase the uronic acid content of this fraction. Changes in the carbohydrate fraction result in a great increase in copper number as well as increased caustic solubility. At the same time the paper becomes more acid.

One approach to a better understanding of the factors involved in the fading of groundwood is the study of the changes taking place in the chemical components of the sheet as the result of fading. The following report covers this phase.

Experimental Work

A test was made of the change in the chemical constants of groundwood as the result of exposure to ultraviolet light by preparing a large number of handsheets of groundwood pulp, exposing them to the light of the carbon-arc Fade-Ometer for an average of 10 hours on each side, and analyzing the sheets, both before and after exposure, for their common chemical constituents.

The drop in brightness suffered by the handsheets as the result of this prolonged exposure was 21 points, decreasing from about 61 to 40. Exact brightness measurements were of course impossible, because of the variation in intensity of light on the various areas of the large sheets exposed. The aged and unaged handsheets were analyzed for copper number, Cross and Bevan cellulose, lignin, methoxyl in lignin, pentosans, alcohol-benzene solubility, 1% sodium hydroxide solubility, and petroleum ether solubility. All values are calculated on the moisture-free unextracted basis. Cellulose and lignin analyses were made on alcohol-benzene extracted samples.

The extent to which certain of the components of the groundwood have been modified by the exposure to conditions in the carbon-arc Fade-Ometer is surprising.

The *lignin value* in the faded groundwood has been lowered by about 13% of its original value. This, of course, does not necessarily mean that the lignin has actually been removed from the sheet but that it probably has been converted by the Fade-Ometer to a product which is no longer insoluble in the presence of the sulphuric acid used in the lignin test; this chemical change has been in part a demethoxylation, for the residual lignin has 13.1% methoxyl, whereas the original lignin had 15.67% methoxyl, or a difference of 2.57%. This requires the assumption that all the lignin in the furnish was homogeneous, at least as far as the methoxyl content was concerned. If we assume four methoxyl groups for each lignin nucleus, the lignin nucleus in the aged sheet has lost an average of one-half of a methoxyl group during the reaction. It is likely that a portion of the lignin, situated in the sheet in such a position as to receive a larger share of the light, has been much more completely demethoxylated than is the case with the lignin in the center of the sheet.

TABLE I.—CHANGES IN CHEMICAL CONSTANTS OF GROUNDWOOD SHEETS ON EXPOSURE TO THE LIGHT OF THE CARBON-ARC FADE-OMETER FOR 10 HOURS ON EACH SIDE OF THE SHEET

	Unaged	Aged	Difference
Copper number	2.55	14.14	+11.59
Cross and Bevan cellulose, %	59.7	52.7	— 7.0
Pentosans, %	12.4	10.7	— 1.7
Lignin, %	27.3	23.8	— 3.5
Methoxyl in lignin, %	15.67	13.10	— 2.57
Ethanol-benzene solubility, %	0.6	4.1	+ 3.5
1% sodium hydroxide solubility, %	12.4	38.4	+25.6
Petroleum ether solubility, %	0.32	0.12	— 0.2

The above points to one reaction taking place during fading which may have some significance—the gradual loss of methoxyl groups, followed by chemical modification of the product to a colored substance.

Recent work at The Institute of Paper Chemistry *(1, 2)* on the changes in lignin which result from exposure to ultraviolet light point to the change in structure resulting when lignin is irradiated; not only are methoxyl groups split off, but there seems to be a possibility that a carbon-oxygen-carbon linkage in a ring in the lignin molecule is opened up and that further oxidation proceeds at this point. Vanillin has been established among the products of this further reaction; vanillin, in turn, may be oxidized and polymerized.

The *carbohydrate portion* of the groundwood has also undergone a deep-seated modification through the action of the light. Both pentosans and Cross and Bevan cellulose are converted to products which no

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longer permit them to appear in the more or less empirical tests used to determine those portions of the pulp.

The indications from these analytical constants are supported by the results of the solubility tests, particularly the 1% caustic solubility. Although the Cross and Bevan cellulose and the pentosan values have been lowered 7 and 1.7%, respectively, the caustic solubility has increased 26%.

The increase in general caustic solubility may come from a gain in carboxyl or acidic hydroxyl groups in the pulp. It also may be due to a shortening in the lengths of the carbohydrate chain molecules by hydrolysis; this is supported by the very considerable increase in copper number which ordinarily accompanies hydrolysis of the linkages between the sugar units in the chain. The increase in lignin solubility in caustic may result from a depolymerization of the lignins, from oxidation of the lignin to alkali-soluble compounds, from demethylation with the liberation of phenolic groups, or from some other even more obscure cause.

The significance of the increase in ethanol-benzene solubility is uncertain. It seems more than a coincidence that this increase should almost exactly equal the decrease in lignin content. This inverse relationship between ethanol-benzene solubility and lignin content resulting from the degradation of pulp has been noted before at The Institute of Paper Chemistry in another field where it was ascribed to the depolymerization of lignin. It might also be due to the opening of a furan or pyran ring in the lignin molecule or to any of a number of other possible reactions. Demethoxylation of the lignin might conceivably be sufficient cause for the change in solubility.

Although time has been insufficient to determine exactly what has taken place to the lignin, a preliminary experiment was run in which a sample of isolated lignin, prepared by the sulphuric acid method, was spread in a thin film on the bottom of two Petri dishes and exposed to the radiation of the carbon-arc Fade-Ometer for 124 hours. The methoxyl content of the isolated lignin before exposure was 13.3%; after exposure it was still 12.75% or a decrease of approximately 0.5%. This does not check in any way the loss in methoxyl content of the lignin in the groundwood. It is apparent that the lignin in the groundwood and the isolated lignin tested react differently toward ultraviolet light.

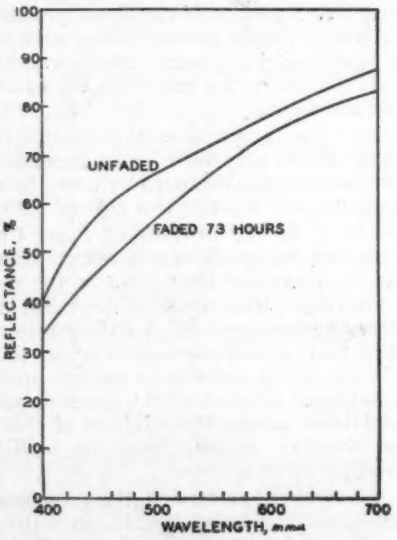

FIG. 1

Groundwood Paper Exposed 73 Hours on Each Side to Sunlight

In view of the changes which have been shown to take place in groundwood handsheets exposed to the carbon-arc Fade-Ometer, it was decided to ascertain the changes which occurred in a commercial groundwood-sulphite sheet exposed under normal conditions to the light of the sun. This sheet contained 45% groundwood and 55% bleached sulphite (on an ash-free basis); the sheet also contained about 15% clay. A large number of sheets of this paper were fastened on a Masonite quarterboard and exposed out-of-doors to the light of the summer sun for approximately 1 month. The total time of exposure amounted to 146 hours, about 73 hours to each side. The atmospheric conditions encountered are described in Table II.

In order to follow the color changes, General Electric reflection meter brightness measurements and General Electric recording spectrophotometer spectral reflectance curves were made, for both unexposed and exposed sheets. The results of the brightness determinations are found in Table III and the General Electric recording spectrophotometer spectral reflectance curves for the sample faded in sunlight are shown in Fig. 1.

TABLE II.—ATMOSPHERIC CONDITIONS ENCOUNTERED DURING THE EXPOSURE OF GROUNDWOOD PAPER TO THE LIGHT OF THE SUN

Time *			
Hours	Minutes	Date	Comments
3	35	8/2/38	Cloudy, overcast
12	5	8/3/38	Cloudy, overcast
20	50	8/4/38	Clear
23	50	8/6/38	Clear
30	5	8/9/38	Clear—rain
38	35	8/11/38	Clear—cloudy
47	5	8/12/38	Clear
51	5	8/13/38	Clear
60		8/17/38	Clear
69		8/18/38	Clear
73		8/20/38	Clear
		Reversed Sheets	
7	30	8/22/38	Clear
15	30	8/23/38	Clear
24	30	8/24/38	Clear
30	30	8/25/38	Clear—rain
39		8/26/38	Clear
42	30	8/27/38	Clear
51		8/29/38	Cloudy
59		8/30/38	Cloudy
67	30	8/31/38	Cloudy
73		9/2/38	Clear

* Total elapsed time exposed to sunlight.

TABLE III.—CHANGES IN BRIGHTNESS OF GROUNDWOOD BOOK SHEETS EXPOSED TO SUNLIGHT FOR 73 HOURS PER SIDE

Sample	Before	After 73 Hours	Drop
Commercial groundwood book—blank....	60.3	60.0	0.3
Commercial groundwood book—exposed..	60.3	49.0	11.3
Groundwood handsheet exposed to carbon-arc Fade-Ometer for 7 hours.....	59.4	47.6	11.8

It is evident that the drop in brightness is of about the same order of magnitude for the groundwood book paper which was exposed 73 hours per side to the sun as for the groundwood handsheet exposed to the carbon-arc Fade-Ometer for 7 hours. The General Electric recording spectrophotometer curves, however, show that the natural fading is somewhat different from artificial fading, because the pronounced absorption within the range of 400 to 480 mmu previously noted is not found after exposure to the sun, whereas the absorption in the range of 680 to 700 mmu is higher by at least 3%. It is entirely possible that these differences are because of the presence of the sulphite pulp and the filler in the commercial groundwood book sheet.

In addition to the above color measurements, the sheets were analyzed for copper number, Cross and Bevan cellulose, pentosans, uronic acid, lignin, meth-

oxyl in lignin, methoxyl in paper, alcohol-benzene solubility, 1% caustic solubility, pH of the water extract, total acidity, and lignin in the 1% caustic residue. The comparative values will be found in Table IV.

TABLE IV.—CHEMICAL CONSTANTS FOR COMMERCIAL GROUNDWOOD BOOK PAPER, UNAGED AND AGED IN THE SUNLIGHT FOR 73 HOURS PER SIDE

Tests Made	Unaged	Aged
Cross and Bevan cellulose, %	80.9	81.7
Pentosans, %	6.2	5.5
Uronic acid, %	0.5	1.0
Lignin, %	9.9	5.6
Methoxyl in lignin, %	14.1	8.6
Methoxyl in paper, %	1.7	1.0
Alcohol-benzene solubility, %	1.9	4.7
1% NaOH solubility, %	19.5	39.3
pH of water extract	3.8	3.5
Total acidity, % SO_3	0.2	0.9
Lignin in residue after 1% NaOH extraction, %	9.9	1.1
Copper number	5.4	19.3

The analyses were complicated by the presence of approximately 15% of filler (clay). Because of this, the accuracy and reproducibility of the results obtained were not entirely satisfactory. All of the results have been calculated on the moisture-free, unextracted filler-free basis, assuming that, in each case, the amount of ash represented 86.5% of the filler originally present (based upon the average loss of 13.5% on ignition of the clay). Analyses, however, which depend upon weighing of the residue and in which the clay may be subjected to acid or alkaline treatment before the ash is determined, may be subject to considerable error. This is most noticeable in the determination of Cross and Bevan cellulose. Cellulose and lignin analyses were made on samples previously extracted with alcohol-benzene.

Changes in the nature of the chemical components of the commercial groundwood sheet as the result of exposure to sunlight were found to follow approximately the same course as in the case of the groundwood handsheets exposed to the light of the Fade-Ometer.

The lignin content of the sheet dropped from 9.9% to 5.6%, a loss of 43%, and the methoxyl in the isolated lignin residue fell from 14.1% to 8.6% or a loss of 39.0%. These changes were much more severe than those noted with the handsheets, where in 20 hours' exposure to the Fade-Ometer, 13% of the original lignin seemed to disappear as a result of fading, and approximately 16% of methoxyl present in the lignin was lost.

The alcohol-benzene solubility and, particularly, the caustic solubility of the paper increase to a very considerable degree as the result of aging. An investigation of the lignin left in the residues from the 1% caustic treatment of the unaged sheets revealed the fact that 80% of the lignin present in the unaged sheet could be isolated from the 1% caustic-insoluble residue. The aged sheet yielded on analysis only 57.0% of the lignin originally present and of this only 12.0% was present in the residue after alkali extraction. When this calculation is carried back to the lignin present in the unaged sheet, only 7.0% of the original lignin was found as alkali-insoluble material. In other words, the sunlight has converted the lignin into a product which dissolves readily in 1% caustic.

Additional information has been obtained in this series of experiments on changes in acidity as the result of fading in sunlight, for the pH of the water extract of the original sheet was 3.83 but in the exposed sheet it had fallen to 3.5. This is further reflected in the change in total acidity, which was only 0.19% (as SO_3) in the original sheet but had increased to 0.92% in the exposed sheet. It seems probable from these observations that the rate of loss in the strength of a groundwood sheet on exposure to sunlight would become progressively greater as the exposure continued; likewise, the rate of loss in the permanence of the groundwood sheet would also become progressively greater as the sheet aged as a result of the building up of acid residues in the sheet.

One further fact of interest is found in the determination of uronic acid. It is evident that oxidation actually has taken place with the resultant formation of carboxyl groups, for the carbon dioxide evolution as carried out in the uronic acid determination increased from 0.5% to somewhat more than 1% in the aged sheet. This evolution of carbon dioxide has been shown by Heuser and Stöckigt *(3)* to be characteristic of oxycellulose and is not exhibited by the hexoses, hydrocellulose, or cellulose. These authors showed that the carbon dioxide evolution of oxycellulose prepared by the action of nitric acid on cellulose was about 1%. In unpublished work at The Institute of Paper Chemistry *(4)* an oxycellulose was prepared from cotton cellulose which was found to yield 1% of carbon dioxide; the rag stock was boiled with normal potassium dichromate (pH 1.4) for 1 hour. The original stock before oxidation yielded 0.3% carbon dioxide. This particular sample of oxycellulose was found to have a copper number of 19. Reasoning by analogy, it would seem as though the carbohydrates in the groundwood sheet were being converted by sunlight into typical oxidation products, analogous to the oxycelluloses formed in the dichromate oxidation of cotton cellulose.

It is evident from a study of these various analytical figures that the fading of a groundwood sheet involves a complicated series of reactions. Not only is the lignin changed but the carbohydrate portion of the sheet is also modified.

The change in lignin appears to be rather deep seated, because exposure to sunlight involves the actual removal from the sphere of sulphuric acid insolubility (the test for lignin) of a very considerable portion of the original lignin. The changes occurring must be significant from a chemical standpoint, for even the lignin remaining after exposure is soluble to a considerable extent in 1% caustic.

The change in the nature of the carbohydrate fraction of the paper is also considerable, for the very great increase in caustic solubility has come in a large part from the carbohydrate fraction. This change is also reflected in the very great increase in copper number, which is ordinarily associated with the degradation of the carbohydrates.

Summary

Groundwood sheets have been exposed to the light of the carbon-arc Fade-Ometer, and the changes in the nature of the sheet components have been estimated. The results indicate an apparent loss in lignin and a partial demethylation of the lignin. Some modification of the carbohydrate components has also been observed—the results being a lowering in Cross and Bevan cellulose and in pentosans. The products formed show increased solubility in 1% NaOH. A third observation of interest is the increase in alcohol-benzene solubility. Some evidence exists from unpublished work for relating this change in solubility to a modification in the lignin. Incidentally, Klason lignin does not show this same sensitivity to ultraviolet light.

A commercial groundwood-sulphite sheet containing a ratio of 45% groundwood and 55% bleached

sulphite with 15% clay was exposed to sunlight, 73 hours per side, to determine whether sunlight would bring about these same changes. The effect on the lignin was even more pronounced than was the case in the previous series, for the apparent lignin in the sheet decreased from 9.9 to 5.6% and the methoxyl in the lignin from 14.1 to 8.6%. After fading, only 7% of the original lignin was found to be insoluble in 1% NaOH. The Cross and Bevan cellulose content of the faded sheet was about the same as that of the original, but some loss in pentosan was indicated. The acidity of the sheet was found to increase as the result of fading, and a portion of this is due to the production of cellulose products yielding carbon dioxide in the uronic acid determination. Solubilities in caustic and alcohol-benzene and the copper numbers show a behavior similar to that found in the groundwood exposed in the Fade-Ometer.

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New England TAPPI at Great Barrington

The New England Section of the Technical Association of the Pulp and Paper Industry met at the Berkshire Inn, Great Barrington, Mass., on September 28-29, 1945. L. B. Tucker of Crane & Company presided as chairman.

Following the dinner on Friday, September 28th, J. J. Healy, Jr., and R. H. Mosher of the Monsanto Chemical Company were the principal speakers. Mr. Healy compared the effects of adding synthetic resins to paper, leather, and textiles. This talk, given extemporaneously, was illustrated with a number of samples of products. Mr. Mosher presented a paper on "Possible Methods for Combining Synthetic Resins with Paper Directly on the Paper Machine." Mr. Mosher said, in part:

"There are two major tyues of paper-resin combination products. The first includes those materials wherein the resin is distributed uniformly throughout the sheet and where each individual fiber is coated and impregnated with the added resin. The resin may be in the form of a continuous film laid down from a solution, or as discrete particles deposited from an emulsion or dispersion. This type of product is exemplified by the treated or impregnated papers. The second classification contains the coated or surface-treated sheets wherein the resin is distributed in a layer on one or both surfaces of the sheet itself.

"For application purposes, the resins may be used in the form of solvent solutions, water emulsions or dispersions, hot melts, or the polymerization nonsolvent types. The use of solvent solutions has been fairly general throughout the converting industry, but recent developments of water-borne emulsions and dispersions and solventless hot melts have shown the way to new methods of incorporation into the sheet without the necessity of elaborate solvent recovery and protective systems.

"There are three major places on the paper machine at which synthetic resins could logically be incorporated into the sheet. The first is at the cylinder or wire along with the furnish. The second is after the sheet has been formed, but before it has been dried, and last after it has been partially or completely dried.

"The presence of any quantities of resin added to the beater or headbox tends to slow up the furnish on the wire. A closed system is practically a necessity since resins are expensive. The machine speed must be reduced generally to the point when water can be removed from the sheet at drier temperatures that are not above the softening point of the resins used. The field where the most experimentation is taking place is in the application of resins to the sheet at some point in the drier section."

On Saturday morning there were visits to the Rising Paper Mill and Monument Textile Mills in Housatonic, Mass. In the afternoon the annual golf tournament was held. The evening dinner was preceded by a get-together party at which E. D. Jones & Sons Company were hosts. Following the dinner J. B. Livingstone of E. I. du Pont de Nemours gave a popular talk on Plastics.

Those present included: John R. Ayres, P. W. Ayres, C. J. Backus, John Bainbridge, John Bagg, Arthur A. Barea, P. S. Barnhart, W. J. Barrett, Mr. and Mrs. F. K. Becker, Charles E. Benoit, Gordon L. Benson, M. M. Bixby, P. S. Bolton, M. Blew, Arthur M. Brooks, S. A. Brown, S. A. Brunell, William B. Buck, Mr. and Mrs. Harold Bugbee, J. G. Bullard, G. E. Calef, John B. Calkin, Mr. and Mrs. J. P. Carey, John F. Carroll, Mr. and Mrs. James P. Casey, Mr. and Mrs. C. H. Champion, C. E. Child, C. H. Child, Natale V. Cirillo, Kendrick P. Coachman, Sheldon C. Collins, Howard C. Cookingham, J. S. Congo, William N. Connor, William L. Craig, Bruce Crane, B. W. Dean, Clarence Decker, Thomas F. Delaney, Paul A. Donaghy, Mr. and Mrs. R. H. Doughty, R. F. Driscoll, Leslie C. Farrington, Herbert M. Federhen, P. A. Forni, W. L. Foote, J. A. Fraser, Arthur W. Frey, A. C. Gault, Val Gooding, Mr. and Mrs. F. C. Goodwill, A. H. Gilmour, Mr. and Mrs. William Glendon, Otto T. Goeppinger, D. H. Gutermann, James W. Hagar, Mr. and Mrs. Paul L. Haggerty, J. E. Hamilton, Mr. and Mrs. W. H. Harding, Mr. Raymond Hart, Ralph S. Hayden, J. J. Healy, Jr., Herbert Hobday, F. J. Hogan, Charles I. Horton, H. J. Hosking, Charles E. Jennings, Dr. Werner Kaufmann, Franklin J. Kelly, R. E. Kilty, Albert D. King, J. J. Kirwan, Arthur P. Knaus, Harold W. Knudson, Warren S. Kumblad, Herbert S. Leonard, Miss Margaret Lynch, R. G. Macdonald, Mr. and Mrs. L. Robert Mannheim, Charles Manning, J. W. Marcy, Mr. and Mrs. J. C. Marrone, William M. Marshall, R. Marvin, H. L. Mellen, John McGarry, T. J. McGuff, James Merrill, John C. Miller, W. B. Morehouse, Mr. and Mrs. R. H. Mosher, Paul H. Mueller, Charles B. Muzzy, T. J. Nelson, F. F. Newkirk, J. J. O'Brien, Donald M. Parrish, John L. Parsons, Karl N. Peiffer, Mr. and Mrs. John B. Pendleton, John P. Phelps, Bart Poopor, James J. Powers, William F. Powers, E. O. Reed, Henry Reeves, Jr., E. A. Richardson, H. C. Richardson, Joseph E. Ryan, Roland W. Sawyer, J. B. Shaughnessy, H. L. Simons, Norman G. Sixt, Chas. P. Slocum, Claude H. Smith, A. H. Staffon, Edward Stevenson, Harold S. Steward, E. Whitman Strecker, Geo. A. Thompson, Jr., Mr. and Mrs. L. B. Tucker, C. H. Vickery, A. P. Wagenknecht, Walter E. Wentworth, W. Bradford West, Frank Williams, John Willy, J. V. Wolff, William Woosnam, Arthur M. Worthington, Jr., C. J. Yarber, C. Frederick Young, W. J. Zubrisky.

Equipment for Treating Paper or Paperboard with Resins*

By Frank W. Egan[1]

Abstract

The mechanical handling of paper or paperboard is considered from the unroll equipment, through the treater, the drying process, the guiding of the web, the control of the tension, and the winding of the web, in a general manner. The different methods of treating the paper are evaluated. The standard treating operations are analyzed and the results defined.

Treating Methods

The treatment of paper or paperboard with phenolic, urea, silicone, acrylic, or other resins can be accomplished by using one of the following methods: (1) Dip and flow, (2) absorption, (3) pressure impregnation, (4) saturation, and (5) heat.

Dip and Flow

The dip and flow method shown in Fig. 1 is a simple but costly operation. An excess of solvent

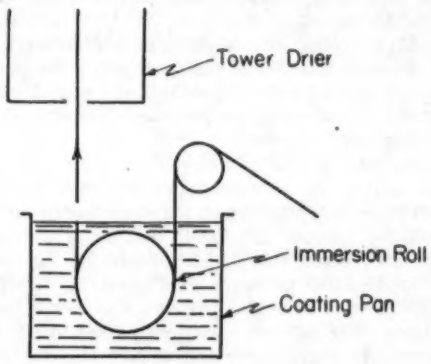

Fig. 1
Dip and Flow Treater

is required to act as a wetting agent to carry the resin in and around the fibers of the web. The large quantity of solvent that is used produces a flow back that helps to distribute the resin. The web of paper is dipped into the pan of resin around an immersion roll and is then carried up into a vertical or horizontal drying tower.

If the web varies in caliper or porosity and the resin varies in viscosity because of an improper preparation or degree of temperature, so does the treated web vary in degree of impregnation.

Absorption

There are two methods of absorption, one of which

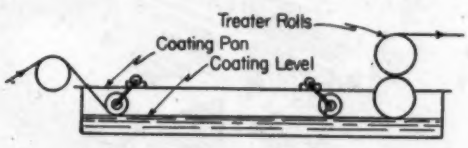

Fig. 2
Absorption Treater. Pan Flotation Method

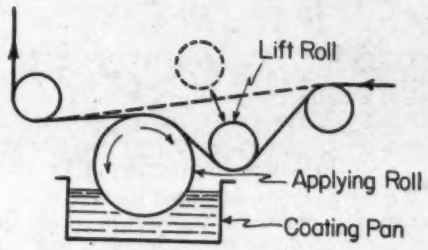

Fig. 3
Absorption Treater. Roll and Pan Method

is to carry the dry web of paper on the surface of the coating or resin in the pan and imbibe the resin (Fig. 2). The resin will drive out most of the air as the absorption takes place. The same results can be accomplished in a more practical manner by passing the web of paper over the surface of a roll running in a pan of the resin as shown in Fig. 3. The roll can be run in either direction.

The roll method is desirable for webs having little wet strength and which absorb readily. The pan or bath surface method is best for stocks that need a longer time cycle, in which case a long saturating pan is used.

For the second method of absorption see the second part of pressure impregnation.

Pressure Impregnation

To impregnate or treat by the pressure method, an immersion roll and dip pan are used in conjunction with a pair of squeeze rolls (Fig. 4). The web is merely dipped into the resin solution or coating and then carried through the nip of the squeeze rolls. The squeeze rolls determine the amount of impregnation by the pressure that is set by the clearance between the rolls and its relation with the caliper of the web. The treated web is then run through the drier.

The second method of absorption is to wind into a roll the treated web after the web has been immersed in the resinous coating and passed through the squeeze rolls. The roll is allowed to stand for a given length of time to permit the resin to impregnate all of the sheet uniformly and then the web is passed through a drier.

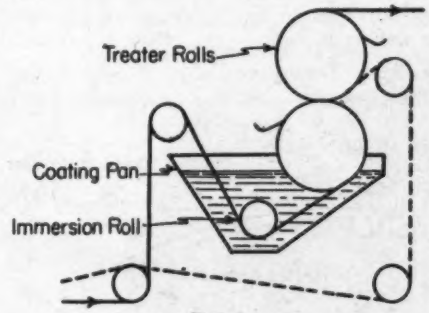

Fig. 4
Pressure Treater. Pressure Impregnation Method

[1] Member TAPPI; Vice President, John Waldron Corp., New Brunswick, N. J.

Saturation

By saturation is meant the soaking of the web in a multigate saturator of the deep dip type with sky breathing rolls to release the air from the voids in the web or from the fibers. This method requires an excess of solvent to obtain a thorough impregnation but the amount of solvent required is not as great as that needed for the dip and flow method since the web is carried through a pair of squeeze rolls (see Fig. 5).

Heat

Webs of paper can be impregnated by heat if the resin is melted by placing the resin powder on the surface of the paper as the paper passes over a heated arch and then through heated squeeze rolls as shown in Fig. 6.

Pressure Impregnation

Of the six methods described the one that is used to the greatest degree is the pressure impregnation method for it produces an impregnated web within a fine degree of uniformity. The operation is a simple one and is easily controlled.

The equipment consists of the following units: Double unroll stand, swing roll tension, treater, drier, cooling unit, guide, pull roll unit, double drum winder or a double center winder, and the drive. Their relative positions are indicated in Fig. 7.

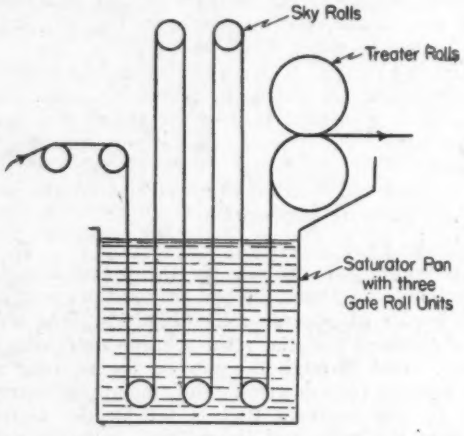

Fig. 5
Multigate Deep Dip Treater. Saturator Method

Double Unroll Stand

The double unroll stand consists of a pair of cast iron and structural steel side frames arranged for two unroll positions. The unroll bearings are of the open type fitted with unroll shafts that have adjustable type cones and weighted type frictions that merely hold the roll of paper from unrolling too freely. Two leading out rolls in ball bearings control the draw of the web as it leads to the constant tension device.

Swing Roll Tension

A constant tension device is supplied through the

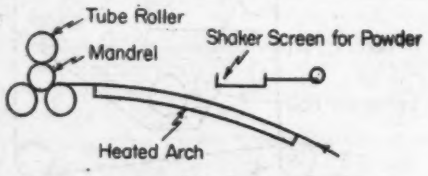

Fig. 6
Dry Powder Treater. Heat Method

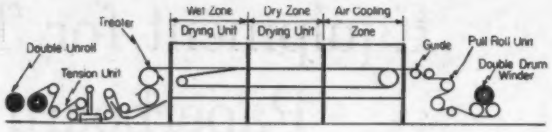

Fig. 7
Treater

medium of a two-roll unit with strap frictions supported on a swing frame that permits the setting of the rolls so that the desired amount of web contact with the frictioned rolls can be maintained.

Treater

The treater as shown in Fig. 8 is made up of heavy cast iron side frames, that support large diameter chilled iron rolls which are accurately ground within tens of thousands of an inch with a straight face. The upper roll is supported in bearings that rest on stops and have vertical adjusting screws that are carried up through caps having spring cushioned studs. The lower roll has bearings that are adjustable through circular wedges and worm and worm wheel micrometers that permit roll clearance settings of tens of thousands of an inch. Both rolls have flexible cleaning doctors on their faces as well as on the slinger rings. The bearings are fitted with resin seal rings. Edge wipers are supplied for the top roll to remove the excess resin that carries along at the selvages of the web.

The upper roll is driven through a worm and worm wheel drive and the lower roll is driven through a pair of spur gears from the upper roll. In some cases the rolls are driven through an outboard drive and floating shaft coupling.

An immersion roll mounted on a rack and pinion device carries the web of paper or cloth down into the pan of resin and the web becomes coated and then contacts the face of the lower roll. The web passes around the lower roll and through the nip of the treater rolls; the pressure generated at the nip of the rolls presses the resin through the web filling the interstices. The treated web then passes to the drier.

The treater is arranged so that one-side coating can also be applied. This is accomplished by passing the web beneath the large coating pan and through the nip of the coating rolls. The coating is applied to the face of the web by means of the lower roll partly immersed in a smaller coating pan placed inside the larger coating pan. The resultant coating is far from

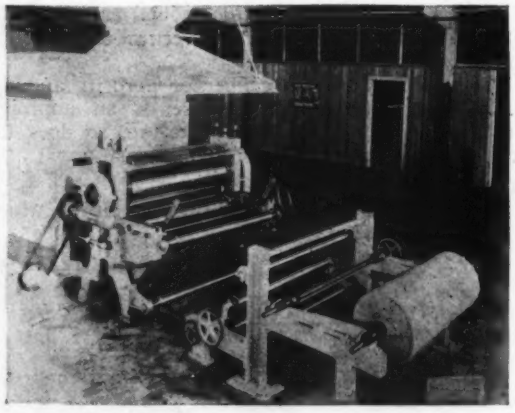

Fig. 8
Double Unroll Stand, Swing Roll Tension and Treater

uniform as the coating will vary as the web varies in caliper.

To apply a uniform coating a reverse roll coater as shown in Fig. 9 is used. The coater consists of three rolls, all rotating in the same direction. The coating is applied by means of a casting roll running in the opposite direction of the web. The backing roll is composition covered and it presses the web against the face of the casting roll. A doctor roll placed above the casting roll, meters the coating to an accuracy that is permitted by the careful grinding of the casting and doctor rolls to 1- or 2-ten-thousands of an inch. The resin is fed to the nip of the doctor and casting rolls. Side dams and a back dam form a fountain for the resin. Flexible cleaning doctors are used on the doctor and casting rolls.

The coating applied by the reverse roll coater is uniform within the tolerance of the accuracy of the ground rolls and is unaffected by the caliper of the web.

Drier

The drier as shown in Fig. 10 can be of any practical length that suits the required speed. The normal length is 75 feet for a speed range of 12 to 120 feet per minute depending on the caliper of the web or the weight of the cloth.

The treated web is carried through the drier on a slat conveyor if the treated web is heavy and lacks wet strength. If the treated web has wet strength and is light, it is carried over an air floater.

The drier is separated into a wet and dry zone. Each zone has individual supply fans, air heaters of steam, oil, or gas and a complete set of supply and recirculation air ducts. Only the wet zone has an exhaust fan and duct system.

Heated air at a controlled and recorded temperature is applied to both sides of the web by means of specially designed slotted ducts that produce a uniformly dried web. Air seals at each end of the drier prevent leakage or solvent vapors into the room and they also supply a part of the makeup air.

If the air drying system is properly designed for a given production rate, there are no hazards when using solvents that are highly volatile.

Cooling Units

To cool the web or bring it to room temperature, a cooling zone is added to the dry end of the drier. The slat conveyor in the drier is carried on through the cooling zone.

Air that is cooled by passing it around water coils is brought into contact with both sides of the web

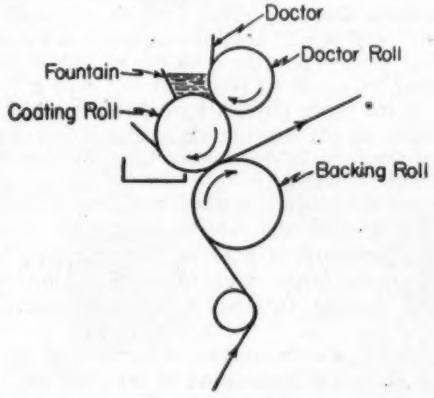

Fig. 9
Reverse Roll Coater

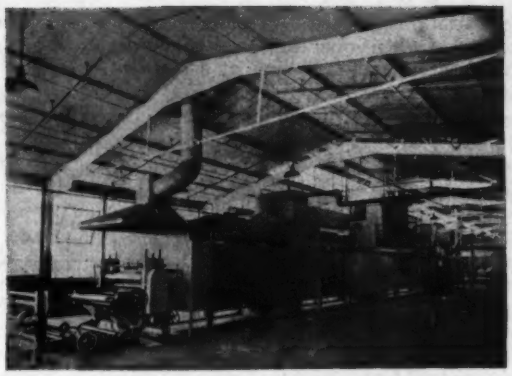

Fig. 10
Coater End of Treater

by slotted air ducts of the same design as the drier units. A supply fan and duct system with controls, maintain the proper condition for cooling. A metal housing confines the cooling air of which a certain amount is taken into the drier.

Guide

As the web passes through the drier and cooling units it will weave. To bring it to alignment within 1/16 inch plus or minus, a web guide is used. The guide consists of two rolls that swivel and are controlled by a rubber motor, air valves and arm operated either by vacuum or compressed air.

Pull Roll Unit

To maintain a constant rate of speed of the web so that uniform results will be obtained at all times, a set of large diameter pull rolls as shown in Fig. 11 placed in S formation are used.

The required tension on the web keeps it in contact with the face of the pull rolls and the speed of the rolls set the speed of the web. There is a certain amount of slip on the face of the pull rolls, but the rate is constant for a given web and percentage of impregnation. This rate can be reduced by covering the rolls with a nonslip material.

Double Drum Winder or Double Center Winder

The treated web is rewound on either a double drum winder shown in Fig. 11 or a double center winder. The double drum winder is preferable as it produces rolls that are straighter and firm. Rolls wound on a double drum winder are not subject to

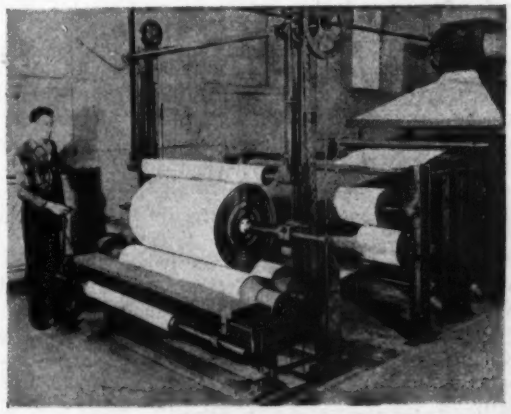

Fig. 11
Pull Roll Unit and Double Drum Winder

the variations caused by manual control which is necessary when operating a double center winder driven through the medium of a slip belt or friction disk drive.

Because of the differential in speed between the two winding drums in a double drum winder better rolls are made. It is not necessary to exert a large amount of tension on the web when using a double drum winder, but it is necessary when using a double center winder for the firmness of the roll depends on the tension on the web and this tension must be reduced as the web increases in diameter or telescoping of the roll results.

There are, however, rare cases where a double center winder has to be used. When necessary, the drive should be controlled electrically or hydraulically.

DRIVE

The drive must be such that the tension on the web as it passes through the drier be under control and allows for shrinkage. This can be accomplished by means of a variable speed unit interlocked between the treater and the pull roll unit.

To vary the overall speed of the complete treater unit a second variable speed drive is used which must be of a positive nature that gives a uniform rate of speed to the web.

The equipment for treating a web of paper or cloth with phenolic, urea, silicone, or acrylic resin has been covered in a general manner. There are many details, each equally important, that contribute their part in the successful operation of the treatment of the web. To cover the mechanical treatment of a web fully, would require further consideration of the following functions: Mechanical handling of the web, how the tension is applied uniformly, the coating and absorption of resin by the web, what takes place during the drying operation, the cooling of the web, and care of untreated and treated rolls of paper or cloth.

TAPPI Notes

The annual meeting of the Technical Association of the Pulp and Paper Industry will be held at the Commodore Hotel, New York, N. Y., February 25-28, inclusive. It is not too early to make room reservation. The New York hotels will probably continue to be filled to capacity for several months.

The Watertown group of the Empire State Section will meet at the Woodruff Hotel, Watertown, N. Y. on October 11th. F. K. Becker of the Bird Machine Company, E. Walpole, Mass., will discuss the Jonsson Screen and the Bird Dirtec System.

The TAPPI Ohio Section will meet at the Manchester Hotel, Middletown, Ohio on Tuesday evening, October 9th at 6:30 p.m. The Rosin Situation will be discussed by D. S. Brown, Gardner-Richardson Company, E. K. Lum, Bechelt Paper Company, and D. M. Yost, Sorg Paper Company.

C. R. Faulkender, formerly of Bauer Brothers Company is now technical director of the Hoberg Paper Mills, Green Bay, Wis.

Samuel A. Woodruff, formerly of the Battelle Memorial Institute is now research chemist for the Kimberly-Clark Corporation, Neenah, Wis.

William J. White has been transferred from the Kalamazoo Division to the Espanola, Ontario Division of the Kalamazoo Vegetable Parchment Company.

Gunnar T. Hansson and K. E. Sundquist are now located with Elof Hansson, Inc., 220 East 42nd street, New York 17, N. Y.

Henry Reeves, Jr. has been transferred from the New River Ordnance Plant to the Paper Makers Chemical Division of the Hercules Powder Company, Wilmington, Del.

Charles R. Outterson, formerly of the General Ceramic Company is now a consultant at 30 Church street (Room 312E) New York 7, N. Y.

J. A. Feola, formerly of Syracuse, N. Y. is now in the Research and Development Department of the Ohio Boxboard Company, Rittman, Ohio.

C. Gunnar Carlson of Mo & Domsjo A/B, Ornskoldsvik, Sweden, is now visiting the United States. He may be reached at Pagel, Horton & Co., Inc., 347 Madison Ave., New York, N. Y. Mr. Carlson is in charge of the alcohol and chemical plant of Mo & Domsjo A/B.

Because of the paper shortage it was not possible to print sufficient copies of Technical Association Papers and the PAPER TRADE JOURNAL to anticipate the needs of individuals in Sweden and other European countries who now would like to obtain back copies. Readers who are willing to supply complete sets of the PAPER TRADE JOURNAL for 1944 and the first half of 1945, the TAPPI Bibliography for 1940 and Technical Association Papers for 1941, 1942, and 1943, should advise the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y.

Miss Helen U. Kiely, Chief Chemist for the American Writing Paper Corporation is recovering rapidly from an illness at the Lenox Hill Hospital, Park Ave. and 76th Street, New York, N. Y.

Victor Burstein, a graduate of the Institute of Paper Chemistry and on leave from the North Carolina Pulp Company is now teaching an organic chemistry course at the Weihenstephan Agricultural and Technical School, APO 340, Postmaster, New York, N. Y. This is an army university near Munich, Germany. He was formerly a machine gunner in the 21st Armored Infantry Bn. of the 11th Armored Division.

Organic Chemistry Physical Methods

The Interscience Publishers Inc. have just issued Volume I of Physical Methods of Organic Chemistry, edited by Arnold Weissberger of the Research Laboratories of the Eastman Kodak Company, Rochester, N. Y. (736 pp. 6¼x9¼).

As in the case of many recent technical books this volume is featured by having different authors with the various chapters. This practice emphasises the rapidity with which scientific subjects are now developing and reflects the difficulty of any individual becoming expert in all phases of any such subject.

In recent years physics have become increasingly important to the organic chemist and has given a greater precision to the concept of atoms, bonds, and structural formulas.

Among the subjects covered are density, solubility, viscosity surface and interfacial tension, parachor, osmotic pressure, diffusivity, calorimetry, microscopy, crystal forms, x-ray diffraction, electron diffraction, melting, freezing, boiling and condensation temperatures.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York, 17, N. Y., at $8.50 per copy.

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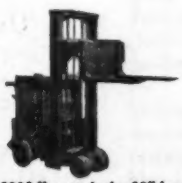
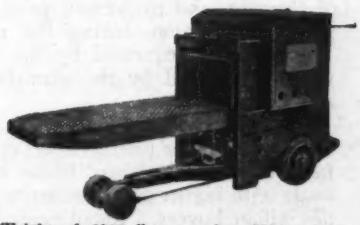
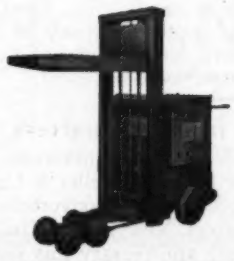


Capacity 2000 lbs. on forks 30" long. Truck turns from a 5' aisle into an intersecting aisle of 5'



Weight of 4000 lbs. capacity—2850, without battery. Truck turns from a 5' 4" aisle into an intersecting aisle of 4'



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Platform 24" wide, 42" long and 9" high, low position. Weight of 4000 lb. capacity—3000 without battery.

New York Paper and Pulp Market Review

Manufacturers Ceiling Prices of Fourdrinier Containerboard Increased $3 Per Ton East of Rocky Mountains—Wood Pulp Supply In Better Balance—Larger Swedish Pulp Exports Are Expected.

Office of the PAPER TRADE JOURNAL,
Wednesday, October 3, 1945.

Backlog orders and current demand is so heavy for major paper items that the removal of numerous government restrictions has been of too short a period to make any material improvement in the over-all supply situation. Prospects for an ample supply of paper and an upward adjustment in prices to establish an equitable level for producers and distributors in the future, appear bright. With the removal of the control of materials, the industry is at liberty to go ahead and make more definite betterment plans for post-war operations.

The index of general business activity for the week ended September 22 declined to 121.7, from 125.9 in the previous week, compared with 137.5 in the corresponding week in 1944. The index of paperboard production was 138.4, compared with 147.5 in the previous week, and with 147.3 in the corresponding week in 1944.

Paper production for the week ended September 22 was estimated at 94.3%, compared with 91.9% for 1944, with 92.2% for 1943, with 87.2% for 1942, and with 105.9% for the corresponding week in 1941.

Paperboard production for the week ended September 22 was 93.0%, compared with 96.0% for 1944, with 96.0% for 1943, with 78.0% for 1942, and with 98.0% for the corresponding week in 1941.

OPA has announced in amendment 23 to Revised Price Schedule 32, that manufacturers' ceiling prices for Fourdrinier kraft containerboard, for shipping containers, has been increased $3 per ton, on sales east of the Rocky Mountains, effective October 3, 1945. The agency states the increase has been granted to cover increased costs of manufacture and to offset substantially, manufacturers' reduced revenues from V-board sales now ended with the termination of the war, and to prevent price ceilings from hampering production during the reconversion period. The increase, requested by the advisory committee, will be absorbed by the manufacturers of shipping containers.

A late report from our Washington correspondent states that higher price ceilings will be allowed manufacturers on paperboard boxes and other containers made with higher-priced substitute materials and sold to civilian buyers. Retail ceiling prices of products packed in any such high costing containers are not raised by this action, the OPA states. This change, effective October 8, 1945, permits manufacturers to figure their ceiling prices for the finished containers, tubes, etc. on the basis of the March 31, 1943 value of the substituted raw materials. Formerly manufacturers must absorb the difference between the cost of the substitute used and materials regularly used during the base period, October 1, 1940 to October 31, 1941. The above is contained in Amendment 7 to RMPR 187, certain paperboard products.

Wood Pulp

Wood pulp supply in the current fourth quarter will be in reasonably good balance, the Department of Commerce reports. The major contributing factor was the revival of imports from Sweden, with the expectancy that imports will continue at a fairly high level through the rest of this year. The cessation of demands for nitrating pulp is also a large factor in the improved civilian supply.

Rags

Mill buying of new cotton cuttings continues relatively heavy at this date. Prices are reported firm at ceiling levels. The supply situation continues limited in relation to demand. More civilian garments are being produced but production has not been continued long enough as yet to accumulate adequate supplies to meet the needs of the paper and other industries. The one-week strike of elevator operations in most office buildings, had an adverse effect on collections.

Roofing felt manufacturers continue to steadily absorb a relatively large tonnage of all old cotton rags permitted by existing regulations. The market situation in roofing grades is tight and is expected to continue for some time.

Old Rope and Bagging

WPB has removed restrictions on the end uses of rope made from fibers other than manila and agave. All rope manufactured from such fibers as jute, istle and coir, may be used for any purpose.

Buying of scrap bagging is somewhat improved this week. Supplies are widely reported as relatively light. Prices are well maintained.

Old Waste Paper

Mill demand for waste paper continues heavy in folded news and in No. 1 mixed paper. Demand for the other grades is active. The limitation on consumption of newsprint resulting in smaller editions of newspapers than would otherwise be published, is reported as one factor in the current limited supply of news. Prices of paper stock are firm at ceiling levels.

Union Bag to Borrow $10,000,000

The Union Bag and Paper Corporation has completed arrangements for a $10,000,000 term loan with a banking group headed by J. P. Morgan & Co., according to a statement made by Alexander Calder, president of the company.

Part of the proceeds of the loan will be used to retire a present loan with an insurance company. The balance of the loan will be available for expansion and other corporate purposes.

Other banks participating in the loan, for which J. P. Morgan & Co., is the agent, are: The New York Trust Company, The Chase National Bank, The Commercial National Bank and Trust Company of New York, Citizens' and Southern National Bank, Savannah, and National State Bank, Newark, N. J.

Heller & Usdan in New Quarters

With the completion of extensive alterations and improvements in their new building, Heller & Usdan, Inc., wholesale paper merchants and converters, are now located at 77 Laight street, New York. The concern is celebrating its fiftieth anniversary this year as converters and distributors of paper products and twine.

STEEL STRAPPED

for *Strength* without bulk!

Many a packing routine has been shortened and shipping safety gained by the use of the Stanley Steel Strapping System. Modern packaging practice has proved that lighter crates and cartons banded with steel can often save time and materials in place of bulkier wooden cases.

Whether you use reel, bale, case, crate or carton to ship by land, sea or air – Stanley Steel Strapping will give your packages dependable, double-strength protection. The Stanley System includes tools, reels and accessories for every application. The Stanley Works, Steel Strapping Division, New Britain, Connecticut.

STANLEY

STEEL STRAPPING AND CAR BANDING SYSTEMS

MEET ALL FEDERAL STRAPPING SPECIFICATIONS

4 WINNERS

AMIJEL *(for the beaters)*

CORAGUM *(for corrugating)*

LAM-O-DEX *(for laminating)*

STARCH *(for enzyme conversion)*

•

THESE four products solve many paper manufacturing problems. Corn Products technical staff is always ready to assist you in taking full advantage of the superior qualities of these products.

•

Corn Products Sales Co.

17 Battery Place New York 4, N. Y.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, October 3, 1945.

BLANC FIXE—The market for blanc fixe is reported unchanged for the week. Current demand is reported fair. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton.

BLEACHING POWDER—Demand is currently reported active. July output lower at 2,126,000 pounds. Bleaching powder is currently quoted at from $2.50 to $3.10 per 100 pounds. All prices in car lots, in drums, f.o.b. works. May output higher at 2,708,000 pounds.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 24 cents per pound; 2,000 pounds, 24¼ cents per pound; less than 2,000 pounds, 24¾ cents per pound, f.o.b. shipping point. Imported, 21 to 23 cents per pound. All requests filled.

CAUSTIC SODA—Supply situation continues short. electrolytic output for July lower at 100,920 tons. Solid caustic soda is currently quoted at $2.30 per 100 pounds. The flake and ground are currently quoted at $2.70 per 100 pounds. All prices in car lots, in drums, f.o.b. works.

CHINA CLAY—Demand for some grades of china clay is reported fair this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mines. Imported china clay is currently quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Supply tighter. July output lower at 105,187 tons. Essential requirements met. Prices unchanged. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b. works.

ROSIN—No offerings or sales at OPA prices: "G" gum rosin at $6.74 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $6.70 per 100 pounds in barrels, New York. Average price of 70% gum rosin size is currently offered at $6.95 per 100 pounds, f.o.b. works.

SALT CAKE—Demand reported moderate. Quotations on salt cake continue to remain unchanged. Domestic salt cake is currently quoted at $15 per ton; chrome cake at $16 per ton.

SODA ASH—Market demand for soda ash continue heavy. Output of light ash for July higher at 198,842 tons. Strikes delay deliveries. Prices continue unchanged. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Market supply of cash corn lower this week. Shipments higher. Corn prices are steady. Starch quotations continue unchanged. Pearl is currently quoted at $3.72 per 100 pounds. The powdered grade is currently quoted at $3.83 per 100 pounds. All prices f.o.b. Chicago.

SULPHATE OF ALUMINA—Supply situation reported good. Quotations are unchanged. Prices on the commercial grades are quoted at from $1.15 to $1.25 per 100 pounds. The iron free is currently quoted at $1.75 per 100 pounds. All prices in car lots, in bags, f.o.b. works.

SULPHUR—Demand is reported active for sulphur. Quotations on all grades continue unchanged. Annual contracts are currently quoted at $16 per long ton, f.o.b. mines. The current contract prices at Gulf Ports remains unchanged at $17.50 per long ton.

TALC—The market for domestic talc is reported fair this week. Quotations unchanged. Domestic grades are quoted at from $16 to $21 per ton, at mines. Canadian $24 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—			
Roll, contract	*$61.00	@	—
Sheets	69.00	@	—
* OPA Maximum Price.			
Kraft—per cwt.—Carload Quantities Zone A, Delivered			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—
* OPA Manufacturers' Prices.			
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila Wrapping, 35 lb.	6.00	"	6.25
Boards, per ton—			
News	*50.00	@	—
Chip	*50.00	"	—
Srl. Mla. Ll. Chip	*62.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*63.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1	$39.10	@ $46.00	$40.25	@ $47.25
100% Rag	32.20 "	37.75	33.35 "	39.25
85% Rag	.... "	....	29.90 "	35.00
75% Rag	23.00 "	27.00	24.15 "	28.25
65% Rag	.... "	....	22.80 "	27.75
50% Rag	18.70 "	22.75	19.90 "	24.25
25% Rag	16.40 "	20.00	17.55 "	21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
No. 1	$10.55	@ $12.75	$11.70	@ $14.25
No. 2	9.65 "	11.75	10.80 "	13.25
No. 3	9.20 "	11.25	10.35 "	12.50
No. 4	8.90 "	10.75	10.05 "	12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.50
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.25
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.60	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$86.00
Unbl. Softwood Sulphite	74.00
Bl. Hardwood Sulphite	83.50
Unbl. Hardwood Sulphite	71.50
Bl. Mitscherlich	81.00
Unbl. Mitscherlich	72.00 @ 82.00
N. Bleached Sulphate	86.00
S. Bleached Sulphate	79.00
N. Semi-Bleached Sulphate	82.00
S. Semi Bleached Sulphate	75.00
N. Unbl. Sulphate	73.00
S. Unbl. Sulphate	63.50
Bl. Soda	76.00
Unbl. Soda	72.00
Groundwood	80.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

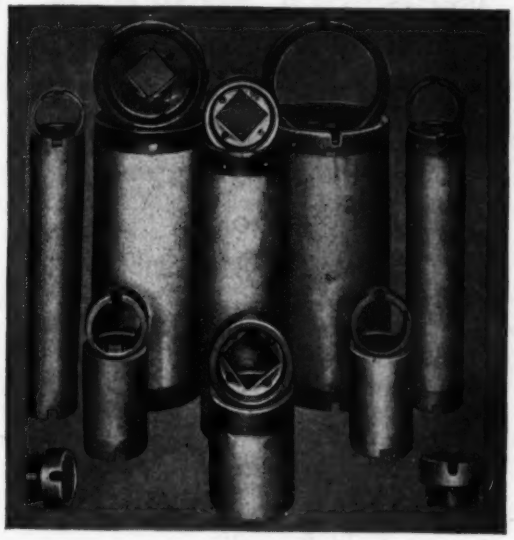
Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

*OPA Maximum Prices.



ELIXMAN

CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

CORES

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.

CORINTH, N. Y.

You Paper Mill Men • *take a Tip on Kalamazoo Tile Stock Tanks and Chests* • *you can't beat them for* **STRENGTH** *and* **DURABILITY** •

Kalamazoo Vitrified Glazed Tile

is a "Natural" for Paper Mill Needs—

Smooth, hard, strong, easily cleaned and highly resistant to chemical action, this marvelous vitrified glazed tile type of construction is preferred by scores of leading paper mill executives and engineers. Adaptable for stock tanks and chests of all kinds. Costs no more than concrete tanks that require constant maintenance expense.

An exclusive method of glazed tile tank construction developed by Kalamazoo engineers. It provides greater flexibility and lower cost for all paper mill stock handling problems. Immediately available.

● **Any Size or Shape Desired—**

Wide, narrow—shallow or deep. Round, rectangular or square. Half-round or tapered bottom and corners. Midfeathers and fins where needed to control stock flow. Adaptable to pumps or agitators. Construction individually designed to meet space, tonnage or production requirements.

Ask for engineering data.

Kalamazoo TANK & SILO CO.

KALAMAZOO - MICHIGAN

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Thirds and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.30	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

Pre-War Quotations

All Prices Nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.25	@	3.30
Wool Tares, light	3.25	"	3.50
Wool Tares, heavy	3.50	"	3.75
Bright Bagging	3.25	"	3.50
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	2.00	"	—

* OPA Maximum Prices.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Mixed Books	1.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Mixed Ledger, colored	2.00	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.95	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
Old Corrugated Containers	.82½	"	—
Mill Wrappers	1.10	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¾	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¼
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¼
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04¾
New Black Soft	.03¾
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Buttonades	.03¼

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	@	3.50
No. 1 Clean bright—Sisal Strings	.04	"	—
No. 2 Clean bright—Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	—	"	1.55
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	1.00	"	1.25
South American	—	"	1.25
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¾	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¾
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¾
New Black Silesias	.03	"	.03¾
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¾	"	.03½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¾	"	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—*

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

CLAFLIN REFINER

CONTINUOUS BEATING: Three No. 2 Claflins in series. Furnish of Southern Bleached Kraft — 50 tons/day. Pulping operation—through three Claflins—to beaters used only for mixing—to Jordans for final cutting control to paper machine. Total of 540 h.p. on Claflins. Freeness drop from 685 c.c. to 310 c.c.

BATCH BEATING: No. 2 Claflin — Furnish of Southern Bleached Kraft—2,000# batch. Stock pumped from chest into Claflin to another chest. At end of 15 minutes and two passes, Freeness 548, a drop of 72 c.c. At end of 30 minutes, after 4 passes, Freeness 476, drop of 144 c.c. At end of 45 minutes and 6 passes, Freeness 400, drop of 220 c.c. Mullen 72%—548 c.c., 102%—476 c.c. and 145%—400 c.c.

Adaptable also for brushing out fibre bundles and lumps with minimum degree of cutting and reduction of Freeness. (Tissues).

LARGER CAPACITY NO. 3 SOON AVAILABLE

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KRAFT LINER BOARD
BLEACHED SULPHITE AND SODA PULP
BLEACHED AND UNBLEACHED KRAFT PULP

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Specify SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
LIQUID CHLORINE

Exacting production methods have placed Solvay Liquid Chlorine in the fore as the standard of quality. Three Solvay Chlorine manufacturing centers—Syracuse, New York; Hopewell, Virginia; and Baton Rouge, Louisiana—insure simplified shipments and handling and faster deliveries of Solvay Liquid Chlorine.

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STEAM TURBINES — CENTRIFUGAL PUMPS
HELICAL GEARS — PROPELLER PUMPS
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CENTRIFUGAL BLOWERS AND COMPRESSORS — MIXED-FLOW PUMPS
DE LAVAL-IMO OIL PUMPS

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RM

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Rubber Products for
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Special Grades for Beater, Calender and Tub Sizing.

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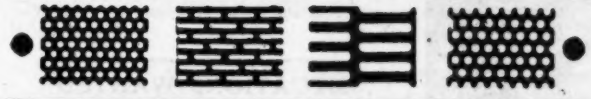

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We can supply Screen Vats for any flat screen and complete *UNION-WITHAM* Vat Parts for Witham Type Vats.

Deliveries are prompt on priorities of AA-5 or better, MRO. New installations require special certification.

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CHARLES P. RAYMOND SERVICE Inc.
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Specializing in Paper Mill Personnel
Positions Now Open

Sales Manager coarse papers
Superintendent converting plant including saturating and coating papers
Superintendent corrugated manufacturing
Photogravure printing foreman
Master Mechanic (Several)
Chemists and chemical engineers
Draftsmen and designers (several)
Tour boss
Supt. cylinder machine felt plant $8,000-10,000 yr.
Plant engineers up to $6,500 year
And Many others

We invite correspondence (strictly confidential) with employers seeking personnel and men seeking new positions. O-4

WANTED

Bag Machine adjuster. General Paper Converting experience preferred. Excellent opportunity with Company in Middle West for advancement and permanent work. Box 45-626, care Paper Trade Journal. O-4

PLANT ENGINEER

To take charge of all plant engineering, maintenance and construction work, including steam and electric power plant. Must be thoroughly experienced, energetic, capable and reliable. Mill located in good midwest city. Give full particulars in first letter, including experience, references, availability and salary expected. Interview can be arranged at company expense and all replies will be treated confidentially. Box 45-580 care Paper Trade Journal. O-11

WANTED

PULP AND PAPER MILL ENGINEERS—RESIDENT ENGINEER for construction new kraft mill in the South and plant engineer after completion. Also general designing engineers and draftsmen experienced in industry. Replies held confidential. Address Box 45-614, Paper Trade Journal. O-18

WANTED — ENGINEERS — Capable of handling general engineering work in established consulting engineers office specializing in pulp and paper mills. Address Box 45-469 care Paper Trade Journal. TF

MERCHANDISE AND SALES MANAGER for nationally known paper bag manufacturing company seeking to develop sales of special purpose and transparent bags and flexible containers—opportunity—replies considered in strictest confidence—state experience and minimum compensation. Our employees aware of this advertisement. Address Box 45-529 care Paper Trade Journal TF

WANTED—Tour Boss, Machine Tender, Back Tender, Shipping Clerk for one machine mill making folding grades. Extensive rebuilding program under way. Excellent opportunity for right men. Address Box 45-541 care Paper Trade Journal. O-25

MACHINE DESIGNER preferably with experience in paper mill or paper working machinery. Permanent position with good opportunity advancement. Location Brooklyn, New York. State complete details, age, experience and salary expected. Address Box 45-578 care Paper Trade Journal. TF

WANTED—Graduate Chemist with at least 1 yr. experience in a paper mill for research and development work in a well established chemical house in Western Pennsylvania. Excellent opportunity to get into Sales and Technical Service. Apply in own handwriting giving references, experience and personal history. Address Box 45-589 care Paper Trade Journal. O-11

WANTED—One man to represent an Eastern paper converting mill through New York State. We will prefer one who has had some experience in paper sales, and who resides in the vicinity of Syracuse, N. Y. Address Box 45-596 care Paper Trade Journal. D-20

WANTED—Draftsmen experienced in plant layout and building design; draftsmen for high pressure & process piping. New York City office. Address Box 45-577 care Paper Trade Journal. O-4

HELP WANTED

Wanted
ASSISTANT TO CHIEF ENGINEER

To take complete charge of our Power Plant supervising the operation and maintenance of high pressure boilers, turbines, and auxiliary equipment. Young man with both technical and practical background preferred. Excellent opportunity for growth in responsibilities. Give complete personal and business history in letter of application.

FORT HOWARD PAPER COMPANY
Green Bay, Wisconsin O-4

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$2,500-$25,000. Reconversion is creating lifetime opportunities now. This thoroughly organized confidential service of 35 years' recognized standing and reputation carries on preliminary negotiations for supervisory, technical and executive positions of the calibre indicated. Retaining fee protected by refund provision. Identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Delward Bldg., Buffalo 2, N. Y. TF

WANTED—Two experienced Back Tenders and one experienced Paper Mill Millwright for general maintenance and repairs in small one machine Fourdrinier Mill. Rochester Paper Company, Rochester, Michigan. O-4

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HELP WANTED

HELP WANTED—Engineer-Draftsman, age 30 to 40 years for large mill in East. Should have experience in layout and design of paper mill machinery and general engineering. Excellent future for the right man. In reply give full information. Address Box 45-604 care Paper Trade Journal. O-4

SALES ENGINEER with knowledge of Pulp and Paper Machinery and experience in merchandising. Write giving background, references and salary expected. Address Box 45-606 care Paper Trade Journal. TF

TOUR BOSSES wanted for Roofing Felt Mills located in New Orleans and Metropolitan New York Area. Send complete resume giving experience, etc., to Box 45-609 care Paper Trade Journal. O-4

WANTED—Tour Boss, experienced in the manufacture of folding and Set-up Boxboards of all kinds, also experience in the manufacture of corrugating medium preferable. Mill located in Central United States. Address Box 45-610 care Paper Trade Journal. O-4

PAPER BOARD MILL SUPT. Unusual opportunity in Mass. mill making high grade paperboard—jute test liner, patent coated, special set up boxboard, match splint stock, etc. Address Box 45-617 care Paper Trade Journal. O-4

WANTED—Man to represent an Eastern Paper converting mill throughout the New England States. We will prefer one who has had some experience with the jobbing trade in this area, and who resides in the vicinity of Boston, Mass. Address Box 45-616 care Paper Trade Journal. TF

WANTED—Layout Man experienced on pulp and paper mill machinery. Give employment history and background in first letter. Valley Iron Works Co., Appleton, Wisconsin. N-1

WANTED—A Machine Tender on a Fourdrinier Machine. This machine will run between three hundred (300) and nine hundred (900) feet a minute. Address Box 45-619 care Paper Trade Journal. TF

WANTED—A young man, preferably under 35, who is prepared to serve as Chemist and who aspires to be the Superintendent of a Paper Mill. A discharged veteran would be acceptable. Address Box 45-629 care Paper Trade Journal. O-4

WANTED—Experienced paper mill engineer, capable of handling maintenance, reconstruction, etc. College graduate preferred but not essential. Keuka Paper Corporation, Penn Yan, N. Y. O-18

SITUATIONS WANTED

MACHINE DESIGNER

Many years experience paper converting machinery, All types printing machinery, paper bag machinery, compensating devices, cellophane converting machinery, die cutting, shear cutting, roll winding, automatic sheet feeding as well as many other types converting machinery. Plant management, Sales promotion and technical service to the trade. Seeks connection commensurate with ability. Address Box 45-632 care Paper Trade Journal. O-11

PAPER SALESMAN at present covering the jobbing trade in Pennsylvania, New Jersey, Delaware, Maryland, Virginia and North Carolina as a mill representative desires to operate over the same territory as a representative for three of four non-conflicting lines. Address Box 45-435 care Paper Trade Journal. O-25

PAPER MILL ENGINEER MILL SUPT.

20 years various mills. Experienced all phases administration, production, operation, development, reconstruction. Good organizer. Desires change. Personal reasons. Seeking opportunity to manage mill. Replies confidential. References. Address Box 45-566 care Paper Trade Journal TF

MATHERS-LAMM PAPER CO.

WASHINGTON, D. C. 1

January 30, 1945

Dilts Machine Works,
Fulton, New York.

Gentlemen:

Please furnish us with list of Mills using Dilt's Hydra-pulper.

We have a large tonnage No. 1 Kraft in 20-inch rolls, 15-inch diameter, 600 Tons for immediate delivery, and 200 Tons monthly, which can be used only by mills with the above equipment.

Thanking you in advance, we are,

Yours truly,
MATHERS-LAMM PAPER CO.

Could you have Qualified?

Here is a letter inquiring about hydrapulper mills. Writer wanted to contact them—sell them kraft stock in rolls—knew that hydrapulper mills and only hydrapulper mills could pulp kraft rolls to advantage. Could you have qualified?

Hydrapulper Mills. Space isn't available to list all hydrapulpers now in service—86 of them. For a complete list see an early Messenger or write for the information.

Hydrapulpers on Order. There are even more hydrapulpers on order than the 86 in service, each to have a heavier drive, also inclined plate extractors and a cast-iron tub bottom, to reduce wear. Shipment as fast as materials and labor permit.

Remember this—with a hydrapulper, it's fast, thorough pulping of virgin pulps in laps, rolls or bales—entire bales of mixed papers—wet strength papers, too.

What capacity hydrapulper will you require? Outline your situation and need—today. Already there's a lot of orders in ahead of you—so don't delay.

Shartle Bros. Dilts

THE BLACK-CLAWSON CO., Hamilton, Ohio

Divisions: Dilts Machine Works, Fulton, N. Y.
Shartle Bros. Machine Co., Middletown, Ohio
Associate: Alexander Fleck Limited, Ottawa, Canada

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SPECIALTY PAPER BAGS

Plant management. Machinery design and development. Production control systems. Personnel training. General organization work. Thoroughly familiar with all types bag making. Latest developments in printing cellophane converting and many other related items. Wishes to become associated with live wire progressive organization Excellent record of past performance. Address Box 45-625 care Paper Trade Journal. O-11

TEXAS-LOUISIANA. Spade work in this market for quality printing paper should begin now. Write resident, 32, college graduate, publicity and graphic arts experience, to discuss sales representation. Address Box 45-585 care Paper Trade Journal. O-11

ENGINEER-CHEMIST —EXPERIENCED IN THE PAPER INDUSTRY. IS AVAILABLE FOR POSITION AS TECHNICAL OR RESEARCH DIRECTOR WITH RELIABLE FIRM IN THE PAPER, CELLULOSE OR PLASTICS FIELD. THIS MAN TRAINED IN CHEMISTRY, PHYSICS AND CHEMICAL ENGINEERING. HAS HAD FIFTEEN YEARS EXPERIENCE IN THE PAPER, PULP AND PRINTING INDUSTRIES. Address Box 45-584 care Paper Trade Journal. O-4

PLANT ENGINEER with long experience in pulp and paper mill engineering, construction and maintenance, also operation of electrochemical and power plants. Address Box 45-580 care of Paper Trade Journal. O-4

BEATERROOM SUPERINTENDENT or foreman, 55 years old. 35 years theoretical and practical experience on most kinds of paper. Good on color. Address Box 45-484 care Paper Trade Journal. S-20

PERSONNEL DIRECTOR—Broad industrial experience. B.A. and L.L.B. Degrees. Extensive union negotiations background. Experienced in all phases employer-employee relationships including job evaluations etc. Address Box 45-561 care Paper Trade Journal. O-11

AVAILABLE AS PLANT MANAGER—SUCCESSFUL EXECUTIVE WITH FIFTEEN YEARS EXPERIENCE IN THE PULP, PAPER AND COATING INDUSTRY, HAVING BACKGROUND OF TECHNICAL TRAINING, DESIRES POSITION AS PLANT MANAGER. Address Box 45-583 care Paper Trade Journal. O-4

CHEMICAL PROCESS Instrumentation Engineer—Now employed by nationally known industrial instrument company as application engineer in the chemical and pulp fields, desires position as engineering process supervisor, preferably with company owning more than one mill. Age 34. Ch. E degree. 10 years industrial process experience. Your mill efficiency can be increased by proper application of industrial instrumentation. Address reply: Robert D. Cowherd, 37 Arden Way, N. E., Atlanta, Ga. O-4

CHEMIST—Experienced in all phases of manufacture of surface coated and fancy printed papers, including the finishing operations. Desire to make permanent connection with company engaged in paper coating or in allied field. Address Box 45-601 care Paper Trade Journal. O-11

CHIEF CHEMIST of a Southern Kraft Paper Mill, with diversified experience desires change in same or allied industry. Address Box 45-623 care Paper Trade Journal. O-11

MECHANICAL SUPERINTENDENT—Graduate mechanical engineer, Canadina, with ten years experience in all phases of pulp and paper mill maintenance. Desires to contact mill in eastern or central United States. Address Box 45-603 care Paper Trade Journal. O-4

MECHANICAL ENGINEER—Paper, pulp and Boardmill experience. Professional and Structural Engineer. Design, construction, cost estimates, steam and power utilization, heat balances, economic studies, process work. Can take charge of post war development. Address Box 45-627 care Paper Trade Journal. O-18

AVAILABLE — SALESMAN. Considering change. Thirty years manufacturing, distributing, selling, fine papers and other grades, seeks connection with mill or reputable jobber. Address Box 45-521 care Paper Trade Journal. O-4

FOR SALE

FOR SALE

Complete two cylinder Paper Mill presently in operation. 150 miles New York City.

Additional details on request.

J. J. ROSS COMPANY
250 Frelinghuysen Ave., Newark 5, N. J.
Bigelow 3-3720 O-4

FOR SALE

3—Worthington turbine well pumps, 300 g. p. m.—for 14′ and 16′—with motor.

J. J. ROSS COMPANY
250 Frelinghuysen Ave.
Newark 5, N. J.
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FOR SALE

1—Yankee Fourdrinier machine with 10′ x 98″ dryer
1—144″ Pulp Drying Machine
1—120″ fourdrinier machine

SHARTLE BROS. MACHINE CO.
Middletown, Ohio
O-4

PAPER MILL & PAPER CONVERTING EQUIPMENT FOR SALE

34″ Inman Slitter.
42″ Firsching Cloth Slitter.
36″ Sheridan Automatic Power Paper Cutter.
44″ Seybold Holyoke Aut. mill type Power Cutter.
45″ White Automatic Power Cutter.
41″ Hamblet Sheeter
80″ Finley Sheeter.
110″ Hamblet heavy duty Sheeter.
68″ Rice Barton & Fales Slitter & Rewinder. for use on dry end of paper machines.
New 62″ Two-Roll Back Stand, handling rolls up to 30″ diameter.
4 Waldron 38″ Paper Reelers
Baling Machines, both hand and power.

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120 West 42nd St., New York 18, N. Y.
TF

FOR SALE

GASOLINE MOTOR
HYDRAULIC LIFT TRUCK
108″ Lift — 3000 Lbs. Capacity

THOMAS PAPER STOCK COMPANY
800 West Evergreen Avenue, Chicago 22, Illinois
TF

FOR SALE—1 Hamilton-Corliss Variable Speed Twin Engine, size of cylinders 12″ x 24″. Also Triple-Deck Frames for ninety 36″ dryers, any width. The Chesapeake Paperboard Co., Baltimore, 30, Md. TF

PAPER COATING MACHINERY — Waxing, Oiling, Gumming, Gluing, Carbon, Laboratory Coating and Treating Machines. High speed. New improvement. MAYER MACHINE COMPANY, Inc., 1155 Scottsville Road, Rochester, 11, N. Y. TF

FOR SALE—30 x 48 Kidder roll feed Three Color Press, printing from a roll 9,000 an hour and rewinds. Address Box 45-598 care Paper Trade Journal. O-4

FOR SALE—Bag Machines—Self Opening Type —Good condition. Address Box 45-611 care Paper Trade Journal. O-4

FOR SALE—2 Dandy Rolls, 12″ diameter x 118″ face, both newly covered. 1 Connersville Vacuum Pump 16″ x 24″ in good shape. Address Box 45-613 care Paper Trade Journal. O-4

FOR SALE—Economy Pulp Baler No. 841, Platen Size 60 x 36. Material can be piled 72″ high. Motor operated. Complete with motor and controls. All in first class condition. Procel, Limited, East Palestine, Ohio. O-11

FOR SALE

REVAMPING AND BUILDING MILL AND CAN OFFER FOR SALE

One large Breaker Beater complete
One small Beater Complete
1—80″ Diameter X 90″ Face cylinder mold
1—4x3 Shartle Duplex plunger stock pump
1—New pair cast steel double suspension spring type beater bearings for 8″ diameter journal —Noble & Wood beater roll. Never used
1—Used old style lighter beam for 8″ diameter journal Noble & Wood beater
1—New reinforced design lighter beam for 8″ diameter journal—Noble & Wood beater roll. Pattern No. 663. Never used.
3—200 KVA —33000-2300/4000 volts transformers
1—250 H.P. slip ring motors & controls—480 R.P.M.—3 bearing base and pulley
80—52″ Face steel dryer felt rolls—1—7/16″ journals
1—30″ Face cast iron taper pulley—2 15/16″ bore taper 31″x2½″
4—36″ diameter x 83″ face dryers
1—6″ to 16″ Cox & Sons Pipe threading machine
1—48″x48″ Noble & Wood beater roll with fillers installed
1—40″ Noble & Wood impeller for circulation stock in beater.

A visit to the mill would prove profitable as we have many items for sale to numerous to mention. See our superintendent Mr. O. P. Fessell at our plant in Walloomsac, New York.

WALLOOMSAC PAPER MILLS, INC.
Mills: Walloomsac, New York
Main Office: 25 Vanderbilt Avenue
New York 17, New York TF

FOR SALE

1—E. D. Jones Standard Jordan with 5/16″ solid steel fillings and extra new plug filling, directly coupled to 200 hp. G.E. AC motor. Capacity 60 tons 24 hours. A-1 condition.
1—60″ Universal type 6 Cameron Slitter and Rewinder rebuilt and guaranteed.
1—Paper converting company's quarter fold napkin machine with embossing attachment, suction pump and 5 hp. AC motor.
1—2′2 Lannoye Pulper complete with 40 H/P A.C. motor equipment, A-1 condition.
1—110″ Double-Drum Waldron late type shear cut hydraulic Slitter and Rewinder.
1—Type FC International Folding Paper Box Machine Co.'s Folding and Gluing Machine. Range of sizes on folded cartons 2¾″ to 16″ when folded flat and 3″ to 30″ long.
1—45″ up-to-date Beck Rotary Sheet cutter complete with automatic Beck Layboy.
1—34″ up-to-date practically new Waldron Embossing Machine with leather design.
2—Laminating machines—one 36″ Cameron and one 44″ Run Breuer.

GIBBS-BROWER COMPANY, INC.
21 East 40th St., New York 16, N. Y.
TF

FOR SALE

36″ Diameter Dryers 85″ and 86″ Face — 3 Deck — Complete with Stands, Gears and Bearings.

EMPIRE BOX CORPORATION
Garfield, New Jersey
TF

FOR SALE

50″ Waldron 6-Roll Brush Coater & 64″ Rewinder
48″, 72″ Automatic Power Paper Cutters with new knives
32″, 40″, 52″ Single & Double Roll Coaters
14″x22″, 28″x36″ Thomson & 30″x50″ Cottrell Die Cutters
46″, 50″, 56″ MIEHLE Printers—or can be converted to Die Cutters
18½″x18″ Seybold 4-Post Embosser, with Elec. Heat. Attach.

ALSO CREASERS, SLITTERS, GLUERS, BOX STITCHERS, WRAPPERS, ENDERS, CORNER CUTTERS, SLITTERS & REWINDERS—all in many sizes and makes. All offered REBUILT & GUARANTEED. Write for Bulletin No. 124. Listing over 100 Paper & Board Converting Machines—now on our floor.

SOUTH WABASH ENGINEERING CO.
2937 South Wabash Ave.
CHICAGO, ILLINOIS N-8

FOR SALE | FOR SALE | FOR SALE

Ross Paper Machinery Co., 265 Passaic St., Newark 4, N. J., Humboldt 2-2177

48" Single Cylinder Complete Mill with all auxiliaries.

Additional Information on request.

BEATERS
1—2500 lb. Downingtown Iron Tub
1—750 lb. Downingtown Iron Tub
2—1000 lb. Horne Iron Tub
1—1200 lb. Holyoke Wood Tub

CALENDER STACKS
1—10 Roll Farrell 104" Warren Doctors
1—11 Roll Pusey & Jones 104" Warren Doctors

CONVERTING EQUIPMENT
1—Bliss Double Head Stitcher
1—Bliss Single Head Stitcher
1—Bliss Box Assembling Machine
1—66" Dietz Towel Winder
4—Waterville Grinders
1—86" Waldron Reeling Machine
1—99" Dampening Machine
1—36" Brush Coating Machine
1—Copper Mixing Tank with agitator—40 gal.
1—Cast Iron Kettle 20" x 24" 2 outlets

DRYERS
19—36" diam. x 68" face—2 deck frames, gears, bearings, etc.
5—48" diam.—102" face—2 deck frames.
40—36" diam. 86" face 3 deck frames
18—36" diam. 82" face 2 deck frames
40—28" diam. 96" face 2 deck frames

FESTOON DRYERS
100" Proctor & Schwartz
60" Proctor & Schwartz

FLAT SCREENS
1—Moore & White 8 Plate
1—Moore & White 10 Plate
2—Sandy Hill Packer 8 Plate with Scrapers.
1—Sandy Hill Packer 10 Plate
1—Trimbey Pulp Screen 30 ton cap.

JORDANS
1—E. D. Jones Standard motor drive
1—Dillon No. 2 Motor drive
1—Appleton No. 2 motor drive
1—Noble & Wood Monarch Belt Drive

KNIFE GRINDER
1—72" Seybold automatic used one year

MISCELLANEOUS
1—Warren Broke Target with pump
2—Yankee Dryer doctor oscillators (Beloit)
2—Nugent Oil Filters (new)
2—Beloit Fourdrinier Shakes

MOTORS
1—30 h.p. 600 R.P.M. 2300 V. 3 Ph. 60 cy.
1—40 H.P. 3600 R.P.M. 2300 V. 3 Ph. 60 cy.

PLATERS
2—Holyoke 2 Roll 18" dia. 36" face

PULLEYS
185—Cone Lift and Solid Cast Iron Pulleys. *Various Sizes.*

PULP EQUIPMENT
2—Pusey & Jones vertical Digesters (welded) 7' dia., 24' high 125 lb. pressure
8—Horizontal Digesters 15' diam. 47' face 150 lb. pressure
3—Improved No. 2 Knotters
1—Nichols-Herreshoff Lime Kiln
1—Williams No. 30 Bark Hog
1—Sumner Disc Barker 72" dia.

PULPERS
1—Sturtevant Bale Pulper with conveyor & motors used three years.
1—Voith Pulper No. 1-20 tons cap.

PUMPS
1—Pusey & Jones 5" x 8" Stock.
1—DeLaval 6" x 6"
1—Oliziti Acid 3" Suction.
1—Frederick 600 g.p.m. 50' head (stock)
1—Midwest 6" stock pump

REELS
2—Pusey & Jones 104" face 18" dia. bowls
1—Pusey & Jones 115" face 18" dia. bowls
1—2-bowl 100" face 20" dia. bowls

RIGHT ANGLE WORM GEAR DRIVES
1—Cleveland 2 H. P.—10 to 1 ratio.
1—Philadelphia 15 H. P.—60 to 1 ratio.
1—Oliver 5 H. P.—51 to 1 ratio.
1—Grant 2 H. P.—3¼ to 1 ratio.
1—Cleveland 2.3 H. P.—40 to 1 ratio.
1—Cleveland 1.2 H. P.—60 to 1 ratio.
1—Grant 2 H. P.—7 to 1 ratio.
1—Philadelphia 2 H. P.—600 to 1 ratio.
1—Philadelphia 15 H. P.—60 to 1 ratio.

ROLLS
315—Table, Dress, Felt, Wire, Breast and Calender Rolls. *Various Sizes.*

SATURATOR
1—Guyton-Cumfer 5 gates

SAVEALL
1—A. D. Wood cylinder 48" dia. 60" face
1—No. 4 Bird with motor and speed reducer 16" diam. rubber couch.

SHEET CUTTER
120" Hamblet Duplex with layboy and 24 roll backstand.

SLITTERS & WINDERS
1—104" Warren two drum.
1—72" Pusey & Jones two drum.
1—42" Cameron 6—20 slitters with motors.
1—50" Cameron 6—20 slitters with motors.

STUFF PUMPS
1—12" x 12" Goulds triplex
8—10" x 20" Shartle triplex
1—8" x 18" Shartle triplex
1—12" x 16" Shartle triplex
1—8" x 10" Shartle triplex
1—7" x 16" Shartle triplex
1—8" x 18" Shartle duplex

TWISTING MACHINE
1—36 Spindle Brownell Twister with motor.

UNWINDERS
1—52" Johnstone Uniform Tension Unwinder with auto, hydraulic brakes. Used 6 months.
1—42" John Waldron Unwinder. Used 1 year.

VACUUM PUMPS
1—14" x 20" Connersville
1—12" x 18" Connersville

WASHERS (Beaters)
1—54" face—45" diam. with rigging
1—52" face—52" diam. with rigging

AMERICA'S LARGEST BUYERS OF PAPER MAKING MACHINERY

SPECIAL ATTENTION TO THE INDUSTRY

New Cut Tooth Gears—Standard or made to your specifications. All sizes. Quick delivery. Priced unusually low. All inquiries will be given immediate attention.

FOR SALE—Two Mammoth Junior Jordans, belt drive. One Wood Conveyor, about 200 ft. long, height 75 ft., with supporting A frames. FRANK H. DAVIS COMPANY, 175 Richdale Ave., Cambridge, 40, Mass. O-18

FOR SALE—38" Oswego Automatic Clamp Cutter, fully rebuilt and guaranteed. Address Box 45-633 care Paper Trade Journal. O-4

FOR SALE—2 Waldron 7-color Wall Paper Printing Presses; 40" Kidder Slitter. Address Box 45-621 care Paper Trade Journal. O-4

FOR SALE

14 dryers 60 x 174", Sheahan carrier anti-friction bearings, felt rolls, framework.

SHARTLE BROS. MACHINE CO.
Middletown, Ohio O-25

FOR SALE

1 completely rebuilt Rubber Covered Downingtown Suction Press Roll—24" dia x 92" drilled face—practically new.

J. J. ROSS COMPANY
250 Frelinghuysen Ave.
Newark 5, N. J.
Bigelow 3-3720 O-4

FOR SALE

ROSS PAPER MACHINERY CO., 265 Passaic St., Newark 4, N. J. Humboldt 2-2177

1—Westinghouse Turbine Generator 31-25 K.V.A. 600 V 3 ph. 60 cy. Additional Information on Request

1—G.E. Turbine Paper Machine Drive 250 h.p. 350 R.P.M. 125 lbs. steam pressure. Additional Information on Request

Beloit Yankee Drier—186" face—12' diameter with Messinger bearings

4 Driers—60" diameter—175" face, gears and frames. O-4

FOR SALE | FOR SALE | FOR SALE

FOR SALE **FOR SALE** **FOR SALE**

ROSS PAPER MACHINERY CO., **265 Passaic St., Newark 4, N. J.**

Humboldt 2-2177

2 Iron Firemen Stokers, for 300 h.p. boilers, complete with undergrate fans, fly-ash fans, Fairbanks Scale Co. weight lory, portable coal conveyor and portable car unloader. All the above is complete with motors and starters. Purchased new 1944 used one year.

Additional information on request. O-4

WANTED | WANTED | WANTED

WANTED

Laminating Equipment for 3 ply lamination. Machine must be capable of handling width in multiples of 12¼"

Aniline printing. Presses capable of printing 3 or 4 colors and carrying a minimum width of paper of 12¼"

Div. 4000

Mr. J. F. ROOKER
1200 W. Fullerton Ave.
Chicago, Illinois O-4

WANTED

One or two-two-roll board calenders 40" wide or wider. Suitable for binder board.

SHARTLE BROS. MACHINE CO.
Middletown, Ohio
O-11

WANTED

1—Wet machine either single press or Rogers type; width from 72" to 96". Address Box No. 45-631, care Paper Trade Journal. O-11

WANTED

MAN FOR COMBINED POSITION-ASSISTANT SUPERINTENDENT AND BOSS MACHINE TENDER. FOURDRINIER TISSUE MILL IN NORTHERN NEW YORK. ALSO HEAD PIPER WANTED FOR SAME MILL. ADDRESS BOX 45-635 CARE PAPER TRADE JOURNAL. O-11

WANTED GENERAL LOGGING SUPERINTENDENT FOR MEXICO

Must be technically trained, experienced in pulp mill supply, capable of supervising extensive pulp wood operations in mountains and rough country and of locating and supervising construction of truck roads. Address reply to Box 45-634, Paper Trade Journal. O-18

IN the market for one used but in first serviceable condition Paper and Cloth-gumming Machine, 63" wide. Send proposals to Mr. Ciro A. Martinez, Purchasing Agent, Apartado Postal No. 755, Monterrey, N. L., Mexico. D-20

WANTED—3 Rag Cutters. 2 Slitters and Rewinders any size up to 100" considered. 2 Hamblet Cutters. Address Box 45-607 care Paper Trade Journal. O-11

NATIONALLY KNOWN old established organization with diversified paper bag manufacturing and selling experience, will purchase outright or invest in established converting business in paper or allied fields. Ample capital available. Address Box 45-531 care Paper Trade Journal. TF

WANTED—Brightwood Box Machine. Address Box 44-836 care Paper Trade Journal. tf

WANTED — DISCARDED PAPER MILL FELTS. HIGHEST PRICES paid for all kinds of discarded paper mill felts. LARGE or SMALL QUANTITIES accepted. Prices quoted immediately on receipt of samples. ADDRESS GLASER AND YOFFE, INC., 80 NORTH MAIN ST., NATICK, MASS. TF

WANTED TO PURCHASE—Close outs, all kinds of paper, card board, waxed paper, glassine paper and paper specialties. Submit samples and quantities you have to offer. Bleyco Paper Corp., 214 Sullivan Street, New York, 12, N. Y. O-4

WANTED—68", 72", 84", 96" Cameron, Langston or Moore & White Slitter & Rewinder. ROOSEVELT PAPER STOCK CO., 19th & Washington Ave., Philadelphia, 46, Pa. O-4

WANTED—40 inch sheet cutter for asbestos paper; cuts ranging from 5 inches to 73 inches. Give price, make, model, location and condition. Address Acme Asbestos Co., 218 N. Elizabeth St., Chicago, 7, Ill. O-4

WANTED—Cameron Type Slitter — width — minimum 62"—maximum 76"—state make—serial No.—condition and price with reply. Address Box 45-628 care Paper Trade Journal. N-29

WANTED—Several sheet gluers, any width, similar to Potdevin. Also layboy for 64" single Hamblet Rotary Sheeter. Address Box 45-630 care Paper Trade Journal. O-4

WANTED — SEVERAL BUNDLING PRESSES FOR FLAT AND SQUARE BAGS, NEW OR USED. ROBERT F. WOLFE CO., FREMONT, OHIO. N-8

WANTED—Several collapsible Reels 50" wide or wider, to handle tissue. Address Box 45-636 care Paper Trade Journal. O-4

USED ANALINE PRINTING PRESSES wanted. Up to 15" Wide Stock. Address Box 45-507 care Paper Trade Journal. O-4

MULTI-WALL BAG MACHINE WANTED. Describe manufacturer, size, range, condition, equipment, price. Cash purchase. Address Box 45-539 care Paper Trade Journal. TF

WANTED—W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic Presses, Sheridan Presses, Dryers. Address Box 44-835 care Paper Trade Journal.

GARMENT BAG MACHINE WANTED. Describe manufacturer, size, range, condition, equipment, price. Cash purchase. Address Box 45-538 care Paper Trade Journal. TF

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The Waterbury Felt Co.

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AMORPHOUS WAXES
Melting Points 120° F. to 205° F.

For the Manufacture of

LAMINATING PAPER . . GLASSINES . . WATER-PROOFING . . GREASE PROOFING . . EXTENDERS FOR PARAFFIN, FOOD CONTAINERS, CONTAINER LININGS, ADHESIVENESS AND PROTECTIVE COATING.

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SPECIALIZED PRINTING

ROTOGRAVURE ENGINEERING CO.

DIVISION MILLER PRINTING MACHINERY CO., PITTSBURGH,
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THE CORROSION RESISTANT ALLOY

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MANUFACTURED BY

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H. G. WEBER & COMPANY, INC.
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From tissue to heavy board; narrow to wide cuts; small to large diameters—there's a size and type for every job.

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For High-Speed, Dependable

PAPER CONVERTING MACHINES

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Paper Bag Machines, Aniline & Oil-Ink Presses, Waxing, Gluing, Varnishing, Laminating Machines.

POTDEVIN MACHINE CO.
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MANUFACTURING COMPANY
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Solicit your inquiries for REPAIRS or NEW EQUIPMENT which will receive our prompt attention as rapidly as controlled materials and skilled labor are made available.

PAPER MACHINERY — PAPER BAG MACHINERY

The New Model "E"

Paper Trimmer.

WHERE TO BUY

ABRASIVES
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
Monsanto Chemical Co.
Norton Co.

ADHESIVES
American Resinous Chemicals Corp.
Arabol Mfg. Co.
National Adhesives Division of National Starch Products, Inc.
Philadelphia Quartz Co.
Stein, Hall & Co., Inc.
United States Rubber Co.

AGITATORS
Appleton Machine Co.
Dilts Machine Works, Inc.
Dorr Company
Downingtown Mfg. Co.
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
D. J. Murray Mfg. Co.
Montague Machine Co.
Moore & White Co.
Noble & Wood Machine Co.
H. K. Porter Company Inc.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

BAG MACHINES
Thomas W. Hall Co., Inc.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Weber, Herman G.

BARKERS AND CHIPPERS
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Carthage Machine Co.
Fibre Making Processes, Inc.
D. J. Murray Mfg. Co.
Valley Iron Works Co.

BARS
Dilts Machine Works, Inc.
E. D. Jones & Sons Co.
The Moore & White Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Simonds Worden White Co.
Valley Iron Works Co.

BEARINGS
Black-Clawson Company
Jones, E. D. & Sons Co.
The Manhattan Rubber Mfg. Co.
Montague Machine Works
Lollway Bearing Co.
Shartle Brothers Machine Co.
Shenango-Penn Mold Co.
SKF Industries Inc.
Timken Roller Bearing Co.
Valley Iron Works Co.
T. B. Woods' Sons Company

BEATERS & JORDANS
The Appleton Machine Co.
Black-Clawson Company
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Herman Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
J. J. Ross Company
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works

BED PLATES
Bahr Brothers Mfg. Co.
Dilts Machine Works Inc.
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Simonds Worden White Co.
Valley Iron Works Co.

BELTING
Allis-Chalmers Mfg. Co.
The Cincinnati Rubber Mfg. Co.
Graton & Knight Company
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
J. E. Rhoads & Sons
United States Rubber Co.
T. B. Wood's Sons Company
Worthington Pump & Machinery Corp.

BLEACHING APPARATUS
Improved Paper Machy. Corp.
E. D. Jones & Sons Co.
Perkins & Sons, Inc., B. F.
Moore & White Co.
Niagara Alkali Co.
Noble & Wood Machine Co.
Pennsylvania Salt Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

BLOW PIPES & PITS
Montague Machine Co.
Moore & White Co.
Murray Mfg. Co., D. J.
Walworth Company

BOTTOMS
Harrington & King Perforating Co.
Kalamazoo Tank & Silo Co.
Valley Iron Works Co.

BUILDERS—PAPER MILLS
Merritt-Chapman & Scott Corp.

CALENDERS
Downingtown Mfg. Co.
Farrel-Birmingham Co., Inc.
Lobdell Car Wheel Co.
Moore & White Co.
Black-Clawson Company
Perkins & Son, Inc., B. F.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works
Waldron Corp., John

CASEIN
Packing Products Co.

CASTINGS
Appleton Machine Co.
Black-Clawson Company
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Fort Pitt Steel Casting Co., Div. H. K. Porter Company, Inc.
The Frederick Iron & Steel Co.
Grinnel Company
Hamblet Machine Co.
E. D. Jones & Sons Co.
Lobdell Car Wheel Co.
Magnus Metal Corp.
Montague Machine Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Shenango-Penn Mold Co.
Smith & Winchester Mfg. Co.
Traylor Engineering & Mfg. Co.
Union Machine Company
Union Screen Plate Co.
Valley Iron Works Co.
Walworth Company

CENTRIFUGAL MACHINERY
Bird Machine Co.
De Laval Steam Turbine Co.
Nichols Engrg. & Research Corp.
Ross J. O. Eng. Co.
Shartle Brothers Machine Co.

CHEMICALS
Amer. Cyanamid & Chem. Corp.
American Resinous Chemicals Corp.
Ansul Chemical Co.
Calco Chemical Co.
Diamond Alkali o.
Dispersion Process Inc.
Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
General Dyestuff Corp.
Geigy Co., Inc.
Gottesman & Co.
Glidden Corp.
Hooker Electrochemical Company
The Mathieson Alkali Works, Inc.
Monsanto Chemical Company
National Oil Products Co.
Naugatuck Chemical Div. of U. S. Rubber Co.
Niagara Alkali Company
Paper Makers Chemical Department, Hercules Powder Co.
Pennsylvania Salt Mfg. Co.
Pioneer Salt Company
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
Stauffer Chemical Company
United States Rubber Co.
Witco Chemical Co.
Wyandotte Chemicals Corp.

CLEANING MATERIALS
Amer. Cyanamid & Chem. Corp.
Bird Machine Co.
E. I. du Pont de Nemours & Co., Inc.
Paper Makers Chemical Department, Hercules Powder Co.
Magnus Chemical Co.
Nichols Engrg. & Research Corp.
Oakite Products, Inc.
Pennsylvania Salt Mfg. Co.
Philadelphia Quartz Co.
Pittsburgh Plate Glass Co., Columbia Chemical Division
Solvay Sales Corp.
Wyandotte Chemicals Corp.
J. B. Ford Division

CLUTCHES
Appleton Machine Co.
Black-Clawson Company
Hudson Sharp Machine Company
Farrel-Birmingham Co.
Fawick Airflex Co., Inc.
Horton Manufacturing Co.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
Stearns Magnetic Mfg. Co.
Valley Iron Works Co.
T. B. Wood's Sons Company

COATING MATERIAL
Glidden Corp.

COATING MACHINERY
Horton Mfg. Co.
Hudson Sharp Machine Company
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corporation, John
Weber, Herman G.

COMPRESSORS
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
Ingersoll-Rand Co.
Nash Engineering Co.
Worthington Pump & Machinery Corp.

CONSTRUCTION ENGINEERS
Merritt-Chapman & Scott Corp.

CONSULTING ENGINEERS
W. H. L. D. Betz
Frederic C. Clark
Ferguson, Hardy S.
Hardy, George F.
Johnson & Wierk, Inc.
The Kohler System Company
Main, Inc., Chas. T.
J. E. Sirrine & Co.
Stone & Webster Engrg. Corp.

CONTROLS
The Bristol Company
Stickle Steam Specialties Co.

CONVEYORS
Black-Clawson Company
Murray, D. J. Mfg. Co.
Ross Engineering Corp., J. O.

CORES
Elixman Paper Co.
Sonoco Products Co.
Rodney Hunt Machine Co.
Montague Machine Co.
Smith & Winchester Mfg. Co.
Walker-Goulard-Plehn Co.

COUPLINGS
Black-Clawson Company
De Laval Steam Turbine Co.
Farrel-Birmingham Co., Inc.
The Frederick Iron & Steel
E. D. Jones & Sons Co.
Lovejoy Flexible Coupling Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John
Westinghouse Electric Corporation
T. B. Wood's Sons Company

CRANES
Northwest Engrg. Co.

CUTTERS
Thomas W. Hall Co.
Noble & Wood Mach. Co.
Perkins & Son, Inc., B. F.
The Smith & Winchester Mfg. Co.
Taylor Stiles & Co.

DAMPENERS
Perkins & Son, Inc., B. F.
Valley Iron Works Co.

DE-INKING
Kinsley Chemical Co.

DIGESTERS
H. K. Porter Company Inc.
Pusey & Jones Corp.

DOCTORS
Bird Machine Company
Black-Clawson Company
Downingtown Mfg. Co.
Lobdell Co.
Montague Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

DOCTOR BLADES
Black-Clawson Company
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
Montague Machine Co.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers
United States Rubber Co.
Westinghouse Electric Corporation

DRIERS
Black-Clawson Company
Murray Mfg. Co., D. J.
J. J. Ross Company
Ross, J. O. Engineering Corp.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Traylor Engineering & Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

DRIVES
Allis-Chalmers Mfg. Co.
Appleton Machine Co.
Bird Machine Co.
Black-Clawson Company
Davis, Frank H., Co.
De Laval Steam Turbine Co.
Dilts Machine Works
Downingtown Mfg. Co.
Farrel-Birmingham Co.
General Electric Company
Horton Manufacturing Co.
Rodney Hunt Machine Co.
Montague Machine Co.
Moore & White Co.
Murray, D. J. Mfg. Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
T. B. Wood's Sons Co.
Valley Iron Works Co.
Westinghouse Electric Corporation

DUSTERS
Appleton Machine Co.
Downingtown Mfg. Co.
Fibre Making Processes, Inc.
E. D. Jones & Son Co.
Moore & White Co.
Noble & Wood Machine Co
Norwood Engrg. Co.
D. J. Murray Mfg. Co.

DYESTUFFS
Calco Chemical Co.
Ciba Company
E. I. du Pont de Nemours & Co
Geigy Co., The
General Dyestuff Corp.
National Aniline Division, Allied Chemical & Dye Corp.
Paper Makers Chemical Department Hercules Powder Co.
C. K. Williams & Co.
Witco Chemical Co.

EQUIPMENT INSTALLATION
Merritt-Chapman & Scott Corp.

EVAPORATORS
Black-Clawson Company
Goslin-Birmingham Mfg. Co., Inc
Murray, D. J., Mfg. Co.
Swenson Evaporator Co., Div. of Whiting Corp.
Traylor Engineering & Mfg. Co

FANS
General Electric Co.
B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O.

FEEDERS
Builders-Providence, Inc.
Merrick Scale Mfg. Co.
Leeds & Northrup
Traylor Engineering Co.
Wallace & Tiernan

FELTS
Appleton Woolen Mills
Asten-Hill Mfg. Co.
Bloomfield Woolen Co.
Bulkley, Dunton Pulp Co. Inc.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Mt. Vernon-Woodbury Mills, Inc
Morey Paper Mill Supply Co.
Orr Felt & Blanket Co.
Shuler & Benninghofen
Waterbury Felt Co.
Woodward, Baldwin & Co.

FELT GUIDES
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

FILLERS
American Colloid Co.
Amer. Cyanamid & Chem. Corp
American Resinous Chemicals Corp.
W. H. Loomis Talc Corp.
Vanderbilt Co., R. T.
Witco Chemical Co.

FILTERS
Moore & White Co.
J. O. Ross Engrg. Corp.
Worthington Pump & Mchy. Corp
Witco Chemical Co.

FLOORING, GRATING & TREADS
Hendrick Mfg. Co.
Norton Co.
Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
United States Rubber Co.

FORMING MACHINES
Downingtown Mfg. Co.
Noble & Wood Machine Co.
Oliver United Filters
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

WHERE TO BUY

GEARS
Black-Clawson Company
De Laval Steam Turbine Co.
Downingtown Mfg. Co.
Farrel-Birmingham Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

GRINDERS
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Montague Machine Co.
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Works

GRINDING WHEELS
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
Simonds Worden White Co.
United States Rubber Co.

HEATING, VENTILATING AND AIR CONDITIONING
The Appleton Machine Co.
Armstrong Machine Works
Fibre Making Processes, Ltd.
E. D. Jones & Sons Co.
General Electric Co.
Grinnell Company
Leeds & Northrup
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Ross Engineering Corp., J. O.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Worthington Pump & Mchy Corp.

HOISTS
Appleton Machine Co.
Dilts Machine Works
Rodney Hunt Machine Co.
Ingersoll-Rand Co.
E. D. Jones & Sons Co.

HOSE (Air, Water, Suction, etc.)
The Cincinnati Rubber Mfg. Co.
The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan Inc.
United States Rubber Co.

INSTRUMENTS, TESTING AND MEASURING
W. H. & L. D. Betz
N. P. Bowsher
The Bristol Company
Builders-Providence, Inc.
The Foxboro Company
General Electric
W. & L. E. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Taber Instrument Corp.
Taylor Instrument Cos.
Wallace & Tiernan Co., Inc.

JORDAN FILLINGS
Appleton Machine Co.
Behr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

KNIVES
Black-Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
E. D. Jones & Sons Co.
Simonds Worden White Co.
Valley Iron Works Co.

LABORATORY EQUIPMENT
Appleton Machine Co.
W. H. & L. D. Betz
Dilts Machine Works
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Taber Instrument Co.
Taylor Instrument Companies
Valley Iron Works Co.

LAY BOYS
Hamblet Machine Co.
Moore & White Co.
Shartle Brothers

LUBRICANTS
Gulf Oil Corporation
Gulf Refining Co.
Sinclair Refining Co.
Socony-Vacuum Oil Co., Inc.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co

LUBRICATORS
Hills-McCanna Co.

MATERIAL HANDLING
Northwest Engrg. Co.

MICROMETERS & CALIPERS
Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Car Wheel Co.
Walker-Goulard-Plehn Co.

MIXERS
H. K. Porter Company
Youngstown Welding & Engrg. Co.

MOISTENING EQUIPMENT
The Spray Engineering Co.

MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Co.
Ingersoll-Rand Co.
Reliance Electric & Engrg. Co.
Westinghouse Electric Corporation

PACKING BOXES
Johnson Corporation
Shartle Brothers Machine Co.

PACKING
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
United States Rubber Co.

PAPER MACHINES
Black-Clawson Company
Downingtown Mfg. Co.
Thomas W. Hall Co.
Moore & White Co.
Pusey & Jones
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester

PAPER MACHINE SLICES
Black-Clawson Company
E. D. Jones & Sons Co.
Montague Machine Co.
The Sandy Hill Iron & Brass Works
Valley Iron Works Co.

PAPERMILL BUILDERS
Merritt Chapman & Scott Corp.

PAPER TUBE MACHINERY
Dietz Machine Works
Thomas W. Hall Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.

PASTING MACHINES
Black-Clawson Company
Davis, Frank H., Co.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John

PERFORATED METAL
Allis-Chalmers Mfg. Co.
Harrington & King Perforating Co.
Hendrick Mfg. Co.

PIPE
Black-Clawson Company
Crane Company
Grinnell Company
Shartle Brothers Machine Co.
Stowe-Woodward Inc.
Taylor Forge & Pipe Works
Walworth Company
Youngstown Welding & Engrg. Co.

PLATERS
Perkins & Son, Inc., B. F.

PLATES
Black-Clawson Company
Hendrick Mfg. Co.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Timken Roller Bearing Co.

PLUGS
Black-Clawson Company
E. D. Jones & Sons Co.
The Noble & Wood Machine Co.
Shartle Brothers Machine Co.

PRESSES
Black-Clawson Company
Farrel-Birmingham Co.
Dietz Machine Wks.
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Rotogravure Engineering Co.
Shartle Brothers
Valley Iron Works Co.
Waldron Corp., John
Weber, Homer G.

PUG MILLS
Traylor Engineering & Mfg. Co.

PULPS
Andersen Co., J.
Bulkley, Dunton Pulp Co., Inc.
Gottesman & Co., Inc.
Elof Hansson, Inc.
Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co

PUMPS
Allis-Chalmers Mfg. Co.
Black-Clawson Company
Dorr Company
Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Frederick Iron and Steel Co.
Hills-McCanna Co.
Ingersoll-Rand Co.
Johnson Corp.
Moore & White Co.
Nash Engineering Co.
Noble & Wood Machine Co.
Paper Converting Mch. Co.
Quimby Pump Co. Div. of H. K. Porter Company, Inc.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Warren Steam Pump Company
Worthington Pump & Machinery Corp.

RECOVERY SYSTEMS
Bulkley, Dunton Pulp Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones
Ross Engineering Corp. J. O.
Valley Iron Works Co.

RECTANGULAR BINS
Traylor Engineering & Mfg. Co.

REELS
Black-Clawson Company
Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Hudson Sharp Machine Company
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Rodney Hunt Machine Co.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

REFINERS
Appleton Machine Co.
Behr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
The Hermann Manufacturing Co.
E. D. Jones & Sons Co.
Murray, D. J. Mfg. Co.
Noble & Wood Machine Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sprout, Waldron & Co.
Sutherland Refiner Corp.
Valley Iron Works

REGULATORS
Allis-Chalmers Mfg. Co.
Armstrong Machine Works
Bird Machine Company
The Bristol Company
The Brown Instrument Co.
The Foxboro Company
Jones, E. D., & Sons Co.
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Shartle Brothers
Stickle Steam Specialties Co.
Taylor Instrument Companies
Wallace & Tiernan
Westinghouse Electric Corporation

RESINS
American Cyanamid & Chemical Corp.
American Resinous Chemicals Corp.
Glidden Corp.
The Resinous Products & Chemical Co.

ROLLS
Appleton Machine Co.
Black-Clawson Company
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Improved Paper Machy. Corp.
Lobdell Co.
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
Montague Machine Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Perkins, B. F., & Sons Co.
Pusey & Jones Corp.
Roehlen Engraving Co.
J. J. Ross Company
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Shenango-Penn Mold Co.
Sinclair Co.
Smith & Winchester Mfg. Co.
Stearns Magnetic Mfg. Co.
Stowe-Woodward Inc.
United States Rubber Co.
Valley Iron Works Co.
Waldron Corp., John

ROLL COVERS
The Cincinnati Rubber Mfg. Co.
Stowe-Woodward Inc.
Youngstown Welding & Engrg. Co

ROLL STANDS
Cameron Machine Co.
Johnstone Eng. & Machine Co
The Kohler System Company
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.

ROTARY KILNS
Traylor Engineering & Mfg. Co.

SATURATING MACHINES
Black-Clawson Company
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman C.

SCALES
Builders-Providence, Inc.
Merrick Scale Mfg. Co.

SCREEN PLATES
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Union Machine Co.
Union Screen Plate Co.

SCREENS
Allis-Chalmers Mfg. Co.
Appleton Wire Works
Appleton Machine Co.
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Harrington & King Perforating Co
Hendrick Manufacturing Co
E. D. Jones & Sons Co.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Traylor Engineering & Mfg. Co
Valley Iron Works Co.

SCRUBBERS
Traylor Engineering & Mfg. Co

SHEET MACHINES
Thomas W. Hall Co.
The Hermann Manufacturing Co
Noble & Wood Machine Co
Rotogravure Engrg. Co.
Valley Iron Works Co.

SHOWER PIPES
Bird Machine Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
Improved Paper Machy. Corp
Moore & White Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg Co

SHREDDERS
Bauer Brothers Co.
Carthage Machine Co.

SIZING
American Cyanamid & Chemical Co
American Resinous Chemicals Corp.
Black-Clawson Company
The Dow Chemical Co.
du Pont, E. I., de Nemours & Co
National Oil Products Co.
Paper Makers Chemical Department Hercules Powder Co.
Pioneer Salt Company
Socony-Vacuum Co.
Philadelphia Quartz Co.

SLITTERS
Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Company
Johnstone Eng. & Machine Co.
Langston Co., Samuel M.
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

SPRAY NOZZLES
The Spray Engineering Co.

STAINLESS STEEL
Allegheny Ludlum Steel Co.
Eastern Stainless Steel Corp.
Industrial Steels, Inc.

STARCH
American Cyanamid & Chemical Corp
Clinton Co.
National Starch Products, Inc.
Stein, Hall & Co., Inc.

WHERE TO BUY

STEAM SPECIALTIES
Johnson Corp.
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.

STRAPPING & STRAPPING MACHINES
Acme Steel Company
The Stanley Works

STUFF CHESTS
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

SUCTION BOXES
Black-Clawson Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Westinghouse Electric Corp.

SULPHUR
American Cyanamid & Chemical Corp.
Beaufor Chemical Company
Texas Gulf Sulphur Co.
Witco Chemical Company

SULPHUR BURNERS
Valley Iron Works Co.

TALC
American Cyanamid & Chemical Corp.
W. H. Loomis Talc Corp.
International Talc Company

TANKS
Frederick Mfg. Co.
E. D. Jones & Sons Co.
Kalamazoo Tank & Silo Co.
The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc.
The Noble & Wood Machine Co.
H. K. Porter Company Inc.
Rodney Hunt
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Stowe-Woodward Inc.

Traylor Engineering & Mfg. Co.
United States Rubber Co.
Waldron Corp., John
Youngstown Welding & Engrg. Co.

THICKENERS, DECKERS & SAVEALLS
Bird Machine Company
Bufkley, Dunton Pulp Co. Inc.
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

TITANIUM
E. I. Du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company

TOOLS
Acme Steel Company
Ingersoll-Rand Co.
The Stanley Works
Walworth Company

TRUCKS
Automatic Transportation Co.
Elwell Parker Electric Co.
Wright-Hibbard Ind. Elec. Truck Co.

TRAPS
Armstrong Machine Works
Crane Co.
Grinnel Company
Johnson Corporation
Shartle Bros. Mch. Co.

TUBS
Rodney Hunt Machine Co.
Noble & Wood Machine Co.
Shartle Brothers
Valley Iron Works Co.

TURBINES
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.
Westinghouse Electric Corp.
Worthington Pump & Machinery Corp.

USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
Noble & Wood Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
Shartle Brothers Machine Co.

VALVES
The Bristol Company
Crane Company
Dilts Machine Works
Fibre Making Processes, Inc.
The Foxboro Company
Hills-McCanna Co.
E. D. Jones & Sons Co.
Kennedy Valve Mfg. Co.
Magnus Metal Corp.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co
The Permutit Company
William Powell Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Valley Iron Works Co.
Walworth Company

VATS & VAT PARTS
Union Machine Co.
Union Screen Plate Co.

WASHERS
Bird Machine Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Works
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

WATER CONDITIONING
The Permutit Company

WAXING MACHINERY
Black-Clawson Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

WELDING EQUIPMENT
Allis-Chalmers Mfg. Co.
General Electric Company
Walworth Company
Westinghouse Electric Corp.

WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
Moore & White Co.
Montague Machine Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

WINDERS AND REWINDERS
Black-Clawson Company
Cameron Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co.
Hudson-Sharp Mach. Co.
Langston Co., Samuel M.
Johnstone Eng. & Machine Co.
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Potdevin Machine Co.
Pusey & Jones Corp.
Rotogravure Engrg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Waldron Corp., John

WIRES
Appleton Wire Works
Black-Clawson Company
Bufkley, Dunton Pulp Co. Inc.
Cheney Bigelow Wire Works
Hayden Wire Works
International Wire Works
Lindsay Wire Weaving Co.
Shartle Brothers Machine Co.

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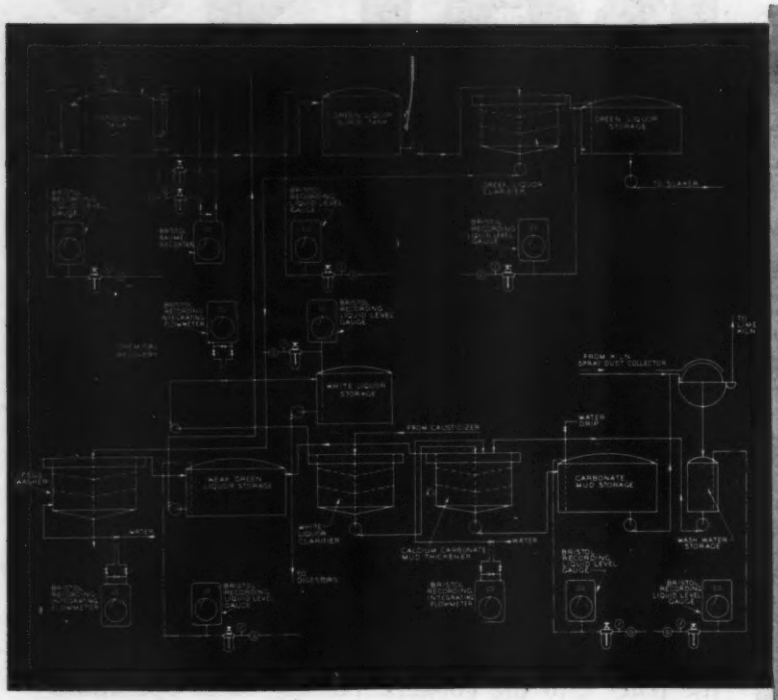
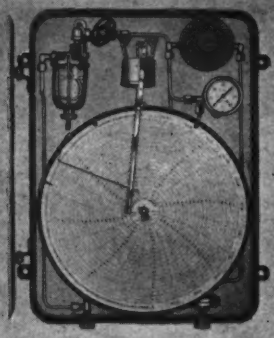
Making a Nice Recovery





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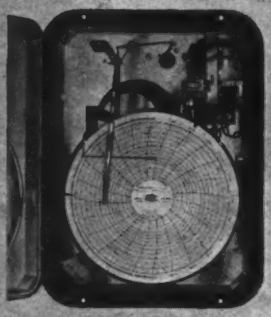
Bubbler-type. For any liquid, corrosive or not



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Has integrating mechanism for total flow and recording mechanism for rate of flow

. . . Thanks to the prescriptions these Bristol Instruments write

Chemical recovery in the Kraft process is efficient in proportion to the control of such variables as flow, liquid level and specific gravity.

Using the charts on Bristol Recording Instruments as a guide to maintaining proper relationships between variables saves the chemical losses that might otherwise occur.

In the causticizing system shown above, Bristol instruments point out what needs to be done to keep the variables in balance at each important step in the process.

Thorough analysis of complete systems by qualified engineers often suggests methods of protecting quality, speeding production and eliminating waste. Have a Bristol Process Control Engineer survey your plant for opportunities where automatic recording or control of variables could improve quality and profits.

Write for general Bulletin DM006, addressing The Bristol Company, 159 Bristol Road, Waterbury 91, Conn. (The Bristol Company of Canada, Ltd., Toronto, Ontario. Bristol's Instrument Co., Ltd., London N.W. 10, England.)

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Engineers process control for better products and profits

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